MATERIAL CULTURE AND SOCIAL FORMATIONS IN ANCIENT INDIA

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Ram Sharan Sharma

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NOTES

1. Anthony Giddens, *Central Problems in Social Theory*, London, 1979, pp. 162-3 (modified) quoted with approval in Gregor McLennan, *Marxism and the Methodologies of History*, London, 1981, p. 56.
2. Ibid.
3. The practice of primogeniture is typical of the Rajput estates.
4. Such a custom prevails among the Jats. The saying goes that a Rajput is born to consolidate an estate, and a Jat is born to lose it. I owe this information to Dr I. S. Marwah.

Abbreviations

Ādi P.	*Ādi Parva*
Ait. Br.	*Aitareya Brāhmaṇa*
AN	*Aṅguttara Nikāya*
Anu. P.	*Anuśāsana Parva*
Āp. Dh. S. (also *Āpas.*)	*Āpastamba Dharmasūtra*
APIIAI	*Aspects of Political Ideas and Institutions in Ancient India*, R. S. Sharma
AV	*Atharva Veda*
Baudhā. Dh. S.	*Baudhāyana Dharmasūtra*
Baudhā. Gṛ. S.	*Baudhāyana Gṛhyasūtra*
CDIAL	*A Comparative Dictionary of the Indo-Aryan Languages*, R. L. Turner, London, Oxford University Press, 1966
Cr. Edn	Critical Edition of the *Mahābhārata*, ed various hands, Poona, Bhandarkar Oriental Institute, 1927–66.
DN	*Dīgha Nikāya*
Ed.	Edited by
Edn.	Edition
HOS	Harvard Oriental Series
IAR	*Indian Archaeology—A Review*, New Delhi
Jāt	*Jātaka*
JS	*Jaya-Saṃhita* redacted by Keshavram K. Shastree
Kātya. Śr. S.	*Kātyāyana Śrautasūtra*
KS (also *Kā S.*)	*Kāṭhaka Saṃhitā*
Khadira Gr. S.	*Khadira Gṛhyasūtra*
MN	*Majjhima Nikāya*
NBP	North Black Polished (Ware)
PED	*Pali-English Dictionary*, T. W. Rhys Davids and William Stede, London, Pali Text Society, 1921
PGW	Painted Grey Ware
PHAI	*Political History of Ancient India*, H. C. Raychaudhuri, seventh edition, Calcutta, 1972
PTS	Pali Text Society
ṚV	*Ṛg Veda*
SN	*Saṃyutta Nikāya*
Śānkh. Gr. S.	*Śāṅkhāyana Gṛhyasūtra*

Śat. Br.	*Śatapatha Brāhmaṇa*
SBB	Sacred Books of the Buddhists
SBE	Sacred Books of the East
SED	*A Sanskrit-English Dictionary*, M. Monier Williams, Oxford, 1951
ŚP	*Śānti Parva*
Śūdras	*Śūdras in Ancient India*, R. S. Sharma, first edition, Delhi, 1958
SN	*Sutta Nipāta*
T. Br.	*Taittirīya Brāhmaṇa*
VI	*Vedic Index of Names and Subjects*, A. A. Macdonell and A. B. Keith, 2 Vols., Reprint Delhi, 1958

Roman Equivalents of Nāgarī Letters

अ a	आ ā	इ i	ई ī
उ u	ऊ ū	ऋ ṛ	ए e
ऐ ai	ओ o	औ au	
क् k	ख् kh	ग् g	घ् gh
ङ ṅ	च् c	छ् ch	ज् j
झ् jh	ञ् ñ	ट् ṭ	ठ् ṭh
ड् ḍ	ढ् ḍh	ण् ṇ	त् t
थ् th	द् d	ध् dh	न् n
प् p	फ् ph	ब् b	भ् bh
म् m	य् y	र् r	ल् l
व् v	श् ś	ष् ṣ	स s
ह् h	*Anusvāra* ṃ	*Visarga* ḥ	

Preface

The theme of this study first engaged my attention in the late sixties. But the major part of the work was done in the seventies, and some portions, now rewritten, were published in periodicals. The book spans rather a long period from about *c.* 1500 B.C. to *c.* 300 B.C. It tries to identify the main currents in the material life of northern India and explore their linkages with social processes. For this purpose the texts have been examined in the light of material remains and tribal studies.

In writing this little book I have received help from numerous quarters. This has been acknowledged at appropriate places. But I would like to thank the trustees of the Jawaharlal Nehru Memorial Fund for enabling me to give adequate time for necessary research. Dr K. M. Shrimali has prepared the index, Dr Mohan Chand and Dr V. K. Jain have prepared the bibliography, and Miss Arundhati and Sheo Dutt have collected material for maps, which have been prepared by Bachi Ram, Jassu Ram and A. J. Rooprai; Deputy Kohli has helped me in compiling the appendices. All these persons deserve my sincere thanks. I also thank Professor D. N. Jha and Professor R. L. Shukla. Finally, I would wish to thank my wife Malina for constant encouragement.

R. S. SHARMA

Department of History
University of Delhi
Delhi-110 007
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Introduction

Depending on their social milieu, intellectual heritage and personal experience social scientists have produced several abstractions to comprehend historical developments. The real dispute is about 'the prime movers' of history. The present study is based on the assumption that the mode of production involving the theory of surplus leading to class formation continues to be the best working hypothesis, notwithstanding countless assertions to the contrary. The effort to eliminate class and surplus has introduced 'elite', 'status', 'hierarchy', 'decision-making', etc., in their place. The theory of surplus is rejected on the ground that people do not produce more on their own but are compelled to put in more work or more people are mobilized for work. Whatever motives be assigned for producing more—and this will differ from society to society—almost all types of serious investigators admit that only extra produce can support wholetime administrators, professional soldiers, full-time priests, craftsmen and other similar specialists who do not produce their food themselves. The argument that people were compelled to produce more would imply the existence of an organized coercive authority such as the state or at least a protostate represented by a strong chief, but it would not negate the idea of surplus. With increase in production, voluntary or reciprocal gifts made by kinsmen in a tribal set-up marked by low productivity are perverted and converted into compulsory or unilateral payments, for producers are forced to part with a portion of their produce. Whatever be the methods of making people pay, it is clear that these can succeed only when the capacity to pay is created. Surplus plays a key role in the formation of class and leads to the erection of an entirely new type of power structure called the state. It is also asserted that leisure time is not indispensable to developments in art, administration, and similar 'secondary' fields, on the ground that hunters and gatherers enjoy enough leisure and yet sit idle. But this is a poor excuse. Sometimes for days together hunters are busy obtaining some game. Even when they are free from the pangs of hunger a primitive food-gathering society seriously limits their options for doing something other than finding ways for their sustenance. Freedom from the

primary concern for procuring food is certainly needed for those who are occupied with managerial and non-subsistence activities. Of course, there is no dearth of idlers in a class-based society, and it is nobody's contention that all those who do not have to bother about earning their bread directly turn out to be artists, painters, administrators, etc. On the other hand even hunters and gatherers are noted for numerous cave paintings and beautiful dances, mainly connected with war and hunting. These activities clearly imply the use of leisure time. Hence it is no use gloating over the demolition of the theories of surplus and leisure time.

The notion of class is an integral part of the materialist approach to history. Class is taken to mean such groups of people as either own the means of production or are deprived of these. In the initial stages of social development dispossession from the fruits of production becomes a prelude to class formation. If no effective methods are devised to level down inequalities created by unequal distribution, it eventually results in unequal and durable access to the basic sources of subsistence. Disproportionate shares in the fruits of production gathered over a long period give a lever to those who control the existing power structure or tend to emerge as members of the ruling class. From the vantage point of what they have gained by way of fruits they extend their authority over the roots of production. Therefore the understanding of the process by which the roots are grabbed to ensure a steady supply of fruits is central to the explanation of class formation. Intensification of inequalities in the distribution of the surplus accelerates class formation, and unequal ownership of the primary sources of sustenance finalizes it. In pre-capitalist societies the ownership of the roots of production cannot always be clearly demarcated from that of the fruits of production. Those who own the fruits also acquire some control over the roots. In ancient India, in any case, priests and warriors claim not only privileges amounting to unequal shares but also general authority over the labour power symbolized by the collectivity of the śūdras. With their claims to taxes and tithes from the peasantry (vaiśyas), they form a kind of the upper class. Historically such a class is not a static entity but a socio-economic formation sharing certain basic interests and working in opposition to a similar formation based on opposite interests. The fact that class conflict and opposition do not themselves surface strikingly in earlier texts does not rule out the existence of class in ancient societies.

In contrast to the role of the materialist forces the idea of the hegemony of intellect is certainly pleasing to those who have succeeded in becoming intellectuals. We need not underrate the

role of the intellectuals, but if the Indian experience is any guide most men of calibre never get a chance to develop their intellectual potentialities. In the ultimate analysis intellect works and flowers in response to certain social and economic situations which seem to exercise the real hegemony. Certain values of the ruling classes exercise their grip over the masses because of the appropriate socio-economic climate. In some ways the supremacy of intellect recalls to mind the importance being given to 'decision-making' by some sociologists. An improvised version of the intellect theory makes ideology an ingredient of the mode of production. Ideology includes organized ideas, norms and notions generated by the dominant class of human beings engaged in conflict and reconciliation with those who have been deprived of the means and fruits of production. The submerged classes are not without their ideas, but these are hardly articulated in ancient texts. Tribal values and beliefs may sustain a kin-based society, but in the study of past preliterate societies, they can be identified only inferentially or even speculatively. Ideology may exercise enormous influence in a particular society at a given point of time. Those who argue for the materialistic approach to history do recognize (and this was done almost half a century back) that after having been in effective operation for a long time ideology becomes as powerful as material force. But to equate ideology with the mode of production and treat it as an autonomous factor would be overrating its importance.

Ideology can be still understood better as a part of superstucture, and the debate over base and superstructure continues. An attempt to obliterate the distinction between the two has not resolved the issue. Although the terms 'base' and 'superstructure' are metaphors adopted from building construction processes, they have come to acquire special meanings in the Marxist universe of discourse. In this study base means factors of production including the ecological environment which conditions human activities. Superstructure means social and political arrangements that are based on these factors, and serve to maintain, modify or alter the mode of production. Artistic, literary, ritualistic, philosophical and similar activities are considered to be the ultimate products of the 'base' although eventually they may help widen, restrict or even replace the base. Not everything is explained by adopting such a postulate, and there are several imponderables in history. For instance, the development of language can be explained in materialist terms, but its origin remains an enigma. This therefore creates what has been called 'extra-superstructural' problems. But the base-superstructure theory is still useful, and enables us to

account for major developments in history. The study of base is decidedly more important than that of superstructure, and it is for the purpose of analysis and correlation that the two have to be isolated at the initial stage. But a study of the process of interaction between the two is certainly fruitful, and affords valuable insights into the functioning of human society.

The distinction between base and superstructure is considered identical to that between forces of production and relations of production. In a food-producing set-up producers and the users of the produce establish various forms of relations with one another and keep the productive system going. We concede that production forces cannot be easily detatched from production relations, but an attempt to isolate the one from the other and to assess the implications of the forces at the social level does not amount to 'lazy Marxism'. Such an exercise has proved rewarding in several significant areas of historical research. On the other hand there is not much to analyse if we gloss over the distinction between forces and relations. Whatever may be the theoretical limitations of attempts at putting forces and relations in two separate boxes, the method which scraps the distinction between the two has yet to prove its fruitfulness. It is argued that the forces/relations connection is particularly apt in relation to capitalist societies.[1] 'In early civilization, "authority, had primacy over allocation" in the sense that "neither technical advance in the tools of production, nor control of property, were of primary importance in this.... authoritarian division of labour." '[2] Really this view provides a functional explanation for the justification of authority or the state. It is however not realized that advance in tools of production, division of labour and unequal allocation of resources to the tribal chief by his tribesmen eventually leads to the rise of authority associated with early civilizations. Allocation depends on collection, and collection, though backed by coercion, is determined by production; real authority originates in such a situation. Once 'authority' comes into being it can consolidate and maintain itself by upholding and strengthening the very system that has produced it. Only a superficial view of early civilization, if it connotes class, the state, urbanism, writing, etc., would attribute untrammelled power of allocation to the state. The law codes of several early civilizations including those of Egypt, Babylonia, Rome and India accord privileges to the upper classes which system naturally limits the power of the 'authority' making the allocation. What is more important early civilizations also suffer from contradictions between the authority and its upholders, i.e., the privileged classes and the direct producers. In this context the

interaction between the forces of production and the social relations generated by them assumes importance.

Holding on to the idea of base-superstructure is sometimes called vulgar Marxism, mechanical materialism, technological determinism, etc. But in an attempt to refine historical materialism we should be wary of such sophistications which tend to lead us into blind alleys. In applying historical materialism to ancient societies some findings of social anthropologists regarding the formation and regulation of kin-based corporate units can sharpen our tools of investigation. But 'refinement' cannot be pushed to a position which tends to destroy historical materialism and rob it of its creative and effective role in comprehending realities. In such a situation 'vulgar' materialism will be of far greater use. After all the term 'vulgar' has something to do with the masses and not with the refined classes some members of which run to historical materialism more out of fashion than out of conviction.

Some social scientists emphasize the complexities involved in the study of the rise of the state, urbanism, etc. The debate between the mono-causist and the multi-causist is fairly old; so also is the controversy over the identification of the cause and of the causes. But the centrality of the mode of production for a total understanding of human behaviour cannot be ignored. An appreciation of the interconnectedness of the causes, the crucial significance of the mode of production and the corollarial importance of the other factors is far more relevant to the understanding of historical processes then the mere exposition of hundred and one causes. We are aware that historical reconstruction has its limitations, which flow from changes in sources, methods, models and theories, and from the social and intellectual make-up of the historian. But these limitations can be greatly minimized by the method and approach preferred by us.

Our study keeps a rather plain evolutionary framework, based on the findings of Marx, Engels and Morgan, and enriched by the generalizations of Cordon Childe and other investigators, who have explored archaeology, anthropology and sociology more or less on the lines of historical materialism. On the basis of their cumulative work certain stages can be clearly discerned. The story of man starts in the palaeolithic age with the roving bands of hunters and gatherers who are not necessarily related to one another by ties of kinship. They lack territoriality although they may identify certain areas for hunting and other foodgathering operations.

When people take to food procuring activities they form stable combinations cemented by ties of marriage and kinship, claiming descent from some real or supposed ancestor. They may develop

their own language or may speak some common language. Such large combinations are known as tribes, which could be divided into clans, and clans into lineages. The tribal phase is associated with the domestication of plants and animals, which took place in the neolithic stage. A tribe multiplied internally with the onset of food production and externally through successful wars, which enabled it to incorporate conquered tribes into its ranks via marriage or initiation ceremonies. Rituals and reciprocal gifts regulated tribal societies and served to ensure fair distribution and consequently cohesion by overcoming inequalities caused by the growing wealth of the chiefs and great joint families. In most tribal societies land was held by the tribe or the clan in common, and the feature is considered to be the basis of tribal/kinship formations. But obviously the use of the term *gotra* (literally a cowpen and therefore combination of cowherders) in the sense of 'clan' in India would suggest that pastoral activities also led to tribal/kinship formations. Ethnographic and historical studies suggest several stages and variations in the development of tribal society. We know of chiefless tribes and of clans/lineages with and without distinctions between the junior and senior line of descendants. In some tribal distributive systems elders get preferential shares;[3] in others elders and youngers alike receive equal shares.[4] But all such problems are better left to specialists in the subject.

The system of a tribe living under a chief, sometimes aided by a council of elders, was widely prevalent. The chief owed his position either to personal abilities or to descent from a senior line or to both factors. Preference for age and seniority at the initial stage provided weightage for skill and experience in the arts of production, distribution and fighting. Eventually the position of the chief became hereditary, and even a younger member of his family could inherit chieftaincy to the exclusion of the elder members of the collateral families. When gifts to chiefs by their kinsmen became frequent and return from the chiefs infrequent, when the chief's share in the booty increased enormously and that of his kinsmen dwindled drastically, conditions were created for the rise of big and dominant chiefs; this development of power structure is called 'chiefdom'. The great chief came to be surrounded by retainers maintained at the cost of the tribal pastoralists and peasantry. The sense of territoriality linked with cultivation and sedentary habits became strong. Rituals became far more elaborate, and although some chiefs played priests, rituals tended to be monopolized by a class of specialists. The egalitarian ethos, typified by the purely tribal phase, suffered erosion, and proprietary differentiation became visible. This stage in social development can there-

fore be called the protoclass and protostate stage. The process of the unequal distribution of the fruits of booty and those of production became pronounced. It marked the beginnings of stratification. Really the term 'chiefdom' does not adequately signify the developments heralded by the advent of agriculture and by the domination of the great chiefs.

The final stage in the development of society is marked by the emergence of class and the state. When advanced food-producing techniques based on agriculture and specialized crafts come into wide use, peasants produce food enough not only to maintain them but also priests, administrators, professional soldiers and the capital consisting of the ruler's establishment, artisans, traders, etc. In many Old World cultures the state and urbanism originate together. Initially the state is born out of gross inequality in the distribution of the fruits of production. Later it is strengthened and dominated by those who manage to obtain a greater portion of land, labour and other basic sources of subsistence. In fact unequal distribution culminates in unequal access to the sources of sustenance.

In respect of Vedic and post-Vedic times, we have tried to examine the nature and consequences of advance in production techniques and assess their social, and sometimes religious and ritualistic implications. Archaeology shows that in ancient times metallurgy and other techniques took centuries to spread and produce results of any great social consequence. But in the long run they left an abiding impact on social organization. We have tried to underline changes in the system of production and show whether these are closely linked up with the successive formations of the band, tribe, protoclass and protostates, and finally of class and the state.

The present enquiry follows the usual text-based documentation, which may mean deriving impressionistic generalizations from various types of references. But we have also tried to count terms of significant cultural import. In order to investigate the pastoral, tribal and class aspects of societies, wherever practicable, the number of terms used for expressing these ideas has been taken into account. However it has not been possible to examine in all cases the context in which these terms are used.

This study makes an attempt to correlate literary references to archaeological remains. Many references in literature to agriculture, metals including iron and handicrafts including pot-making have been collected. But in the archaeological and philological context they are used to fix dates, prove antiquity, demonstrate diffusion or indigeneousness. Their value for the investigation of social and economic processes in a broad perspective is hardly

realized. In our study the later Vedic texts have been broadly examined in the context of the iron-associated Painted Grey Ware archaeology because both roughly belong to the same period and the same geographical zone. On account of similar considerations of time and place the early Pāli texts have been broadly discussed in relation to the Northern Black Polished Ware archaeology of the middle Gangetic basin. A good portion of what is said about material culture is based on archaeological studies although we draw heavily on literary references. Social patterns have been reconstructed mainly on the basis of the study of the texts, but an attempt is made to confirm and extend this entire record through archaeological and some anthropological findings. We have neither examined the archaeological identification of the Aryans nor the association of various tribes, peoples and dynasties with different types of antiquities, particularly pottery. But the nature of linkages between the material culture and social evolution has been our chief concern.

However both later texts and PGW iron archaeology extend over a period of about 500 years, and since archaeological stratification does not necessarily match literary stratification, it has not been possible to clearly highlight developmental processes during this long period. It is also likely that the iron artifacts which were being used towards the close of the PGW period in the upper Gangetic basin were being used towards the beginning of the NBP phase in the middle Gangetic basin.

The study of social formation in the age of the *Rg Veda* cannot be advanced by the existing archaeological material. Archaeology facilitates the study of social and economic developments in later Vedic times, but for want of statistical and technical information the excavated material cannot be used more meaningfully. The inference stressing the civilizing role of iron in various parts of the Old World is drawn from a good deal of technical studies. But in the context of India we still need studies on the ore-artifact relationship, on the nature of the carburization of iron objects and on the rate of their rusting and corrosion. Even an exhaustive inventory of iron objects in terms of time, place and functions is lacking. Obviously in the absence of all such information inferences tend to be provisional.

The NBP archaeology, on which we have tried to build much, suffers from several limitations. Although I have some personal knowledge of NBP sites, especially those located on both sides of the railway track between Allahabad and Bhagalpur, these have not been systematically explored, except to satisfy a thirst for knowledge. The attempt to push back the birth of civilization in

India and also for extending its frontiers has led to a planned and systematic exploration of the Harappan sites. Similarly the search for the Aryans has resulted in exploration of the PGW sites. But no such attention has been paid to the NBP sites so far. Cities mentioned in Pāli texts and Chinese accounts have been excavated vertically, but we have not developed the archaeology of rural sites in historical times. Since the area surrounding a NBP urban site has not been systematically explored, we can do little to find out the link between a town and its hinterland. It is also difficult to indicate the precise scale on which settlements appeared for the first time in the middle Gangetic plains in the age of the Buddha.

While we have used some relevant findings of anthropology to explain and extend our literary and archaeological record, we have also given due weightage to ecological factors. The semi-arid climate of the Indo-Gangetic divide and upper Gangetic plains has been contrasted with the moist and rain-fed climate of the middle Gangetic plains. The nature of the soil and vegetation has also been taken into account. This differential factor affects the state of the preservation or otherwise of the material remains including metal objects. The PGW sites are mainly located in the windy and semi-arid zone. Hence they lie exposed, and are easier to spot and explore. But the NBP sites in the middle Gangetic plains have been subjected to centuries of sedimentation and luxuriant vegetation. NBP sherds therefore do not always appear on the surface except when they are exposed by rain/river erosion or by cultivation. The climatic factor also helps us to understand the relevance of iron technology to the large-scale clearance and settlement of the middle Gangetic plains in ancient times.

ERRATUM

Read 'hard wood' for 'the *cīra* tree' on p. 92.

CHAPTER ONE

Problems of Social Formations in Early India

In recent years there has been a happy awareness of 'no theory, no history' among historians. Seminars held to examine the assumptions underlying historical writings have given rise to a healthy, though still weak, reaction against colonialistic, pseudo-nationalistic, chauvinistic and obscurantist approaches to the study of Indian history. But the search for theories and models has led some of us into the sociological trap, and there is a real danger for others to fall into it. In India, till the fifties the historical method and approach was applied to sociology, political science, economics, linguistics, etc. Although the concepts of growth in economics and of modernization and industrialization in sociology owe much to history, there is also a clamour for applying the models of the other social sciences to history. There are however models and models. We have to decide which ones are of the right type and can be used as tools of analysis. Insights from allied disciplines are always welcome, but history should not be allowed to dissolve into a welter of multidisciplinary clap-trap. Social history does not mean 'a backward projection of sociology', nor economic history an application of economic theory with 'retrospective' effect. Sociological generalizations which transcend time and place and deliberately attempt to prove the unchangeable character of Indian society pose a real danger to historians.

For comprehending and explaining the past in India we naturally look for models and typologies, but the intellectual market in social sciences, like any other market, is flooded with 'western' commodities, and we have very little choice in the matter. The obsession of some social anthropologists with kinship, caste, ritual, language, social customs, etc.,—problems of superstructure—has given rise to several theories. A few of these can explain the structure, composition and functions of a society, but most of them founder on the fundamental problem of change from one social formation to the other which is vitally important to the historian. Many of these

models may be useful for static societies but lose their validity for the study of social processes. The *jajmānī* system, for example, may explain the social and economic relations of the feudal phase but not of the pre-feudal phases. Whatever be the date of the *Arthasāstra* of Kauṭilya, there is nothing of the *jajmānī* system in the whole of the text. Of the theories meant to explain social dynamics, those of Sanskritization and of the Great and Little Tradition touch only the outer cultural veneer and make little difference to the study of socio-economic formations. Much is being made of the elite theory, and irrespective of their place in the system of production, the 'elite' (literally, the choice part, the best) are being seen as the prime motive force behind all social change. But the simple historical truth, that by and large the literati and the intelligentsia are the subordinate allies of the ruling class in class societies cannot be overlooked. The theory of tradition and modernity is used to cover the whole history of society, which is also sought to be encompassed by 'simpler' and 'complex' societies. But as a matter of fact human society passed through four or more different modes/stages of production extending over centuries.

Advances in historical knowledge during the last hundred years have altered to some extent the model of social formations provided by historical materialism, and here we should gratefully record our debt to Gordon Childe, who has provided us with valuable insights into the social formations of the bronze age, but much more still remains to be done on the differences between bronze age societies and iron age societies, and particularly on the Asiatic mode of production, to the critique of which D. D. Kosambi and other Indian historians have made valuable contributions. A deep study of sources in the light of the fundamentals of historical materialism may open up exciting possibilities of discovering new and transitional types of societies. The sociological model of tribe/folk–peasant–industrial society is considered to be an alternative to the model provided by historical materialism, but it has a number of limitations. It is held that in primitive society, also called folk/tribal society, kinship is the governing force, but it is doubtful whether it is far stronger than the system and relations of production. The idea of the peasant stage is useful in the sense that we can envisage a tribute- and tithe-paying agricultural society ruled by priests and warriors, but the peasant phase does not necessarily correspond to the feudal phase. If the problem is to articulate and characterize the mode and relations of production, 'feudal' and 'peasant' societies may not convey the same meaning. Peasants constitute the overwhelming majority of the population, but since they do not form the ruling class the dominant culture and ideology

will not be that of the peasant. Industrial society may cover both classless and class-based societies. The concept 'industrial' conveys more sense in the context of technological transformation than in the context of social formation, and may apply to capitalist, non-capitalist, and socialist societies.

We can dilate on some of these problems. Let us consider the idea of peasant society. Here the peasant is shown as meeting his hundred and one needs out of his produce and also paying tax and tithe. If the idea is to emphasize the crucial role of the peasant household production unit as the prime support of social structure in a pre-capitalist society, the term peasant society can prove to be useful. But if the idea is to get at the nature of the surplus provided for managers of production and consumption, the static connotation of this term cannot enlighten us much, for the amount and method of surplus collection and the mode of its distribution keep on changing. The concept of peasant society, therefore, may serve as an omnibus term for different types of formations in which peasants pay taxes, tithes, tributes, gifts, etc., but since these forms of payment and the mechanism for their assessment and collection keep on changing, the term would not be able to bear the weight of the theory which stresses the changing nature of class relations.

Again, peasants do not always constitute a homogeneous group. When tribal people take to full-fledged agriculture and adopt it as the main source of their livelihood, their bonds of kinship are initially strengthened and tribal traits continue in the management of land. They may have to pay taxes and tithes, but they can be better described as tribal peasantry. We also have to draw a distinction between free peasantry and servile peasantry which may coexist in a society, but a society with more of free peasantry will certainly be different from that having more of servile peasantry. Servile peasantry is characteristic of a feudal society. The peasantry controlled by market laws is found in a colonial/capitalist society. It may be added that a large-scale free peasantry is generally found in either a pre-feudal society or in a capitalist society.

Although in many pre-capitalist societies the peasantry may be the principal source of surplus meant for the maintenance of various non-producing segments of society, it would be wrong to think that a homogeneous peasantry guided and shaped the course of history. Peasants came to be divided into different strata, and substantial peasants certainly mattered more than their poor cousins. Even in the age of the Buddha we encounter the affluent landowning peasant called the *kassaka gahapati*. Some *gahapatis* employed a large number of slaves and agricultural labourers; others carried on agriculture mainly with the help of family labour

supplemented by a few slaves and hired workers. The substantial peasants seem to have formed the backbone of the lay following of the Buddha. It was in their interest that Buddhism never thought of the abolition of slavery. Kauṭilya mentions sharecroppers who obviously were exploited by rich peasants. At a later stage rich peasants called *mahattara* eventually grew into local landlords living on the rents and services of the common peasantry. In other words the problem of stratification among the peasantry is linked up with changes in religion, social structures, etc. At the same time certain broad characteristics, such as sentimental attachment to the land, worship of fertility divinities, local patriotism and some amount of conservatism may have been shared by all categories of peasants. Love for fairs, festivals, entertainment, etc., and also the need for protection could draw them towards the priests and princes by creating an illusion of cohesion. Feedback distribution on the occasion of sacrificial feasts by princes not only helps to maintain the sense of collectivity but also tempers the rigours of taxation.

Certain historians tend to attribute the formation of a slave society to conquest; examples are cited from Roman history.[1] But conquest itself is caused primarily by such internal dynamics as the compelling need for procuring labour power and obtaining land for colonization, particularly on the part of the ruling class. In the pre-capitalist phases of society such a use of force may be considered an extra-economic method adopted to maintain and perpetuate a class-based or slave-based society, as happened in Greece and Rome, and perhaps occasionally in India.

A large number of theoreticians frequently raise the problem of status, so popular with many sociologists, and in explaining the structure and dynamics of a society, the use of status is preferred by those who feel fed up with the 'worn-out', concept of class. It is argued that the brāhmaṇa, kṣatriya, vaiśya and śūdra form statuses and not classes. Varṇa is also translated as order, estate, etc., which obscures its identity as class, and it is said that in each case the economic status of a varṇa does not approximate to its social and ritualistic status. Apparently this view seems to be true to a degree. But the real question is not to investigate the nature of correspondence between the varṇa and its economic presence, although in the pre-colonial phase in most cases the economic functions and position of the two higher varṇas would roughly correspond to their social and ritualistic status. The same was broadly true of the two lower varṇas. However it will be more fruitful to find out the nature of the role of different 'statuses' in the overall management of production and in the sharing of its surplus. The problem is not to

find out who is rich and who is poor but to assess the role members of a varṇa play in the mode of production which keeps society going.

Some scholars want to reconstruct the history of social formations on the basis of what the ancient people thought of their own roles in society. They argue that we should look at the conduct of ancient people as they perceived it themselves. But if we are convinced that the evolutionary view of history, which is now strongly corroborated by anthropological studies, is correct and if we think that a comparative yardstick in terms of time and place is necessary to have a more meaningful appreciation of the past, it is essential to follow a consistent scientific method and objective approach in the study of the past. While it is necessary to detect the various types of prejudices permeating our written records, it is all the more necessary to examine the nature of the material culture revealed by them and also the material remains of ancient cultures brought to light through excavation and exploration.

A few scholars who take an anthropological view of history hold that consideration of kinship played a vital part in ancient times.[2] Although in a great deal of their discussion the need for lineage and acquisition of manpower as a result of the advent of food production is not underlined, this approach has enabled scholars to explain some creation myths and to understand the nature of various types of marriage practices, inheritance, etc. Now the idea is being applied to some ancient and medieval dynastic kingdoms, which are called segmentary or kin-based states. Attempts are being made, though unsuccessfully, to apply the African model of tribal polity to some early medieval kingdoms of south India. While kinship considerations might govern and condition a few areas of social conduct, as they do even now in Indian villages, it would be wrong to call those societies kin-based. There is no doubt that in the evolutionary scale the kin-based or tribal society was superseded by state-based and class-based society. But although it is possible to identify in this process certain landmarks defined by time and place, it is difficult to find clear cut-off or terminal points for one type of society giving place to another type of society. Strong survivals from previous societies are always noticeable in later societies, and for this phenomenon various terms such as 'continuum', 'overlap', 'interlocking', etc., are used. But the study of change, divergence, disjuncture and discontinuity is possibly more important. It is difficult to think of unpunctuated development. Wherever evidence points to more than one type of society in the same period and the same region, the student of history is required to underline the dominant element which differentiates the emerging social formation from the decaying one.

If in a transitional phase two elements are equally balanced, that situation has also to be admitted. Some people would like to call it a dualistic phase; others might call it a counter-balancing situation containing contradictory elements. But all the same historians and anthropologists accept the existence of such a phase. While some anthropologists feel elated at their illusory achievement in demolishing the epochal findings of Morgan recorded in his *Ancient Society*, in recent years radical anthropologists have evinced a strong renewed interest in Morgan's ideas and methods. Adopting more sophisticated methods used by anthropologists currently, several of them have not only confirmed the basic findings of Morgan but have carried them further. In the process of the re-examination of the conclusions of Morgan and Engels, some Marxist anthropologists have now substantially modified the stages in the history of early evolution uncovered by the two 'thinker-scholars'. The new findings start with the advent of band which is a collection or group of people for hunting or other similar primitive foodgathering activities, but not necessarily bound by ties of kinship. In the second stage we come across tribe—whatever may be its meaning—although for us the element of kinship is most important in it. An important development of 'tribe' is marked by a stage of tribal chiefdom, and then finally we have a state-based and class-based society.

Marxist anthropologists, however, are not in agreement on the relative importance of kinship and of the mode of production in a tribal society. Some consider kinship as a determining factor in regulating relations in a tribal community. In their opinion all economic activities including production, distribution and war are moulded by kinship relations.[3] But this view is not accepted by others. As already shown, in the pre-kinship stage a band of people belonging to unrelated kin may form a collective for gathering food by various methods. What is important to note is that a full-fledged tribal society is inextricably associated with certain basic conditions of material existence, and the moment those are disturbed, the tribal society begins to disintegrate, although it may rally, reform and reorganize itself, obtaining a fresh lease of tribal life. However the reorganized tribal community may lose some of the tribal elements, and this process would ultimately lead to its undermining and eventual break-up. The same analogy applies to the caste system, whose 'vigour' and 'persistence' have earned the unstinted admiration of some western sociologists and their Indian counterparts; they overlook the process of the dissolution of the older system under the impact of a new type of economy and derive satisfaction from demonstrating the continuity of caste.

The formation and the growth of the caste system are attributed to notions of purity and impurity. The theory is old hat which has been mended to serve those who find themselves fascinated by the outer manifestations of caste and untouchability. But only a historical approach based on considerations of time, place and social situations can unravel the causes and character of outer manifestations. It is clear that several crafts, especially those connected with leather, did not bear any stigma of impurity in Vedic times when society had not completely transcended the tribal and pastoral stage and had not fully entered a class-based phase. The role of the socio-economic factor in contributing to the origin of caste and untouchability has been ably made out by several researchers.[4] Although we notice a few signs of untouchability even in pre-Gupta times it is only in early medieval times that untouchability attracts our attention as a significant social phenomenon.[5]

Notions of impurity connected with such events as death and menstruation in tribal societies were not sufficient to create conditions for the origin of untouchability. Only when manual work was completely divorced from religious/intellectual and administrative work, and a large number of men were separated from the land, the chief source of production, only then could members of the higher varṇas, particularly the first two, claim a number of exploitative privileges. The higher varṇas wanted to perpetuate their power and position by keeping themselves at a safe distance from a good section of primary producers, mainly artisans and agricultural labourers. How could this be done easily? By inventing and refining the rituals of purity and impurity and by creating a mechanism of barriers and hierarchy so that the buffer zones would be invested with varying degrees of purity/impurity. Some Indologists underscore the role of religion in shaping the course of Indian history and assert that it held back the economic progress of the country. This game has been going on for more than a century, and somehow because of ceaseless propaganda, religion has stuck to Indian studies so fast that it is difficult to extricate historical research from its yoke. The respectability conferred on the religious factor by orientalists and Sanskritists has been reinforced by recent publications of some sociologists. While the former relied on texts, mostly written by priests, the latter swear by field work. A few Sanskritists have been attracted by the findings of these sociologists and have tried to apply them to the study of ancient texts.

Scholars have suggested various types of approaches. They argue, for example, that the four goals of *dharma* (concern for social order or religion), *artha* (wealth), *kāma* (pleasure) and *mokṣa* (deliverance from the travails of life, or spiritualism), guided the

activities of man in India. There is hardly any evidence to show that as a concept *trivarga* or *caturvarga* was known in the Vedic period which covered nearly a thousand years. Even in post-Vedic times, the *trivarga* appeared first, and *mokṣa*, which was used in the sense of divorce, or of manumission of a slave, was added to it later. The *caturvarga* ideal as a whole was popularized not before post-Maurya and Gupta times. Those who want to demonstrate that ancient Indian life was guided by these fourfold norms and values have to prove that the common man was aware of these objectives. Even now very few members of the intelligentsia, who boast of a knowledge of the Indian cultural heritage, are acquainted with the *caturvarga* ideal, not to speak of a far more limited number in ancient times. Incidentally the use of the term *artha* in this ideal as well as its relative importance in the list of the four objectives has to be appreciated. Several texts repeatedly state that *artha* constitutes the root (*mūla*) of *dharma* and other ingredients. In any case while the dominant class in ancient India was not without ideologies, it would be wrong to make *caturvarga* the common ideal of one and all and to consider it the motor force of all developments of ancient times. On the contrary it might prove rewarding to investigate the linkages between the four varṇas/*āśramas* on the one hand and the four goals on the other. On the face of it the hierarchy of the four goals starting with *dharma*, to which the law-books or Dharmaśāstras were devoted, was a logical ideal for a varṇa-divided society.

No serious student of social formations in early India can overlook religious ideology and practices. But these cannot be studied in isolation from changes in material life. In fact Vedic and post-Vedic rituals serve as an indispensable guide to both social and economic developments. Unfortunately some scholars who consider the four-goal ideal as a key to the unfolding of the ancient Indian cultural treasure discard rituals as meaningless symbols. But myths and rituals have their origin and growth in reality. Even the wild growth of plants and vegetation is governed by certain laws. Myths and rituals therefore do not grow in a vacuum or in barren soil. They owe their origin to certain material and social environments which they subserve and perpetuate. With a change in environment, they might lose their relevance and become empty formalities, but they retain their significance as long as the original situation lasts. Even those who suspect their historical value consider many myths and rituals as symbols of fertility. But fertility represents production and reproduction without which human society cannot continue.

It would appear that the search for substitutes for the materialist

explanation of history, developed through the concepts of class and mode of production, have thrown up a varied crop of alternatives such as concepts of status, kinship, peasant society, purity/impurity, religion, *caturvarga* ideals, etc. The exploration of each one of these in the context of ancient Indian society has introduced a good measure of fresh air and also posed a few questions which need historical explanation. But none of these formulations appear to be effective substitutes. They may explain the growth of the outer dimensions of social institutions, but they do not provide convincing explanations for changes in the inner or basic social structure. Whatever may be its weaknesses, for no explanation is foolproof, the Marxist theory, with its refinements in recent years, continues to be the most satisfying and effective tool for analysing and explaining historical events.

The mode of production occupies the pivotal position in the materialist explanation of history. In explaining its operation a distinction is rightly made between structure and superstructure; social units, religion, ideology, art and literature, polity, etc., are placed in the realm of superstructure. This distinction is sometimes questioned by those who include the ideological outfit in the mode of production. Emphasis on the hegemony of ideology may be considered as one of the ramifications of the 'elitist' theory, for it implies an emphasis on the role of intellectuals, who in most class societies have been an integral part of the establishment. It is likely that some Marxists want the intellectuals to play a very full and effective role in close cooperation with the working masses, but that purpose is not necessarily served by making ideology part and parcel of the mode of production. In the case of India if we accept this position we will have to accept the primacy of religion in shaping the course of history. But whatever little work has been done in this direction from the materialist point of view shows that religion subserved the interests of the ruling class because of the existing mode of production. The first essential therefore is to understand the nature of the mode of production and then of the resultant ideology. Those who investigate on these lines are dubbed mechanical materialists, but it is better to be called mechanical in the age of the machine than to give undue weight to the role of intellectuals. It is true that if the same material conditions persist for centuries, the religious paraphernalia assumes the character of a materialistic force and continues to maintain its grip over the minds of the people even when the conditions which have given rise to it and sustained it have disappeared. But just as a rootless tree cannot retain its green leaves for ever, so also the religious facade without a materialistic framework cannot last for long.

The object of making ideology a part of the mode of production may be to strengthen the struggle against the hold of obscurantist and irrational ideas, but unless the basis of such ideas is assailed and shattered the system will continue. While a study of interaction between the structure and superstructure cannot be ignored, a mixing-up of the two may hamper an analysis of the real nature of the inner structure of society and consequently may obscure our understanding of past societies. Such a mixing-up will particularly befuddle the minds of those who have to deal with present societies and will affect the direction of their struggle against social injustice.

During the last twenty years or so the idea of the heartland and hinterland or of the core and periphery, advanced in the context of settlement geography, is being used by some scholars who want to utilize archaeological and other types of evidence for the study of ancient cultural patterns. There is no doubt that the idea originated in the context of a highly industrialized society with enormous transport facilities, and it emphasizes the dominance of the metropolitan cities in relation to smaller cities lying on the periphery. Only in such a society can we think of continuous commercial linkages on a substantial scale. It is difficult to imagine continued commerical traffic in the Vedic period or in the age of the Buddha which we will examine in this study. However the idea of diffusion of the elements of material culture associated with the PGW or NBP from their epicentre to the peripheral zones through trade, conquest or missionary activities can be explored. There is also the possibility of feedback from less developed areas to more developed areas.

In the case of ancient India the concept of nuclear zones was first put forward forcefully by Subba Rao in his *Personality of India.* But it is not merely the geographical set-up or availability of resources which confers nuclear importance on any zone. Much depends on the technological knowledge available to people at various stages of the development of human society. It is obvious that in spite of the middle Gangetic basin being one of the most fertile areas and in spite of its lying adjacent to rich mineral resources including iron in south Bihar, it could only come into the historical limelight with the increased use and better knowledge of iron technology and of rice transplantation in the middle of the first millennium B.C. It is therefore more meaningful to analyse the various elements that go into the making of the production system of a zone and help it to emerge as a unit. It helps further if we discover the processes of the spatial expansion of such units of production under the leadership of the dominant sections of society. The *janapadaniveśa* or *sunyaniveśa* of Kauṭilya presents a practical picture of these processes. When

advanced zonal units of production come into contact with less developed units, they not only impart their advanced skill and knowledge, provided there is a congenial climate for receptivity, but also adopt from their neighbours new elements, refine them and assimilate them into their production system. It is a two-way traffic in which the advanced production zone may be a dominant giver, but its dominant classes consist of people who enjoy taxes and tributes made available through the spatial expansion of the production zone.

In the context of ancient India smaller towns were not the satellites of larger towns. Possibly the upper classes of these towns were involved in transactions with one another in semi-precious beads, *de luxe* pottery, costly cloth and spices, some other luxury goods and prestige objects. Most townsmen however would have nothing to do with these objects. It may therefore be more fruitful to look for the rural base of towns whose inhabitants were mostly non-agriculturists. Here the archaeological method might pay. If the same types of pottery (NBP and associated ware) are found in a town site in excavation and in the neighbouring area in excavation/exploration it may be possible to establish some kind of links between towns and the adjacent countryside. Unfortunately such an effort has not been made so far. In any case some insights from settlement geography may prove useful in the ancient Indian context, but the fact that some of them are far more relevant to highly industrialized communities should not be lost sight of.

Happily the prospects of applying the psycho-analytical approach to early Indian history do not seem to be bright because we do not possess authentic accounts of the childhood of great individuals. I have however a lurking suspicion that this will not deter enthusiasts, who might try their hands at interpreting the numerous legends we have. In any case what is needed is not only an awareness of the various models that are being peddled in the field but also their careful examination, otherwise we would just become middlemen and paraphrasers. I would prefer to be damned as old-fashioned than go in for the latest without assessing its analytical validity and social relevance. New terms are needed to express new ideas, but phrase-mongering should not be confused with advance in historical knowledge.

In this study we do not have any new approach to commend to the reader. We have based our methodology on an application of what is commonly known as historical materialism. Stated in the simplest terms it means 'no production, no history'. A study of ancient Indian history on this basis involves a study of (*i*) the labour process and the labouring masses; (*ii*) of the raw materials or the

natural resources on which they worked; and (*iii*) of the artifacts with which they worked. It further means an inquiry into (*a*) the use, utilization and allocation of raw materials and other resources; (*b*) appropriation and distribution of surplus labour and surplus product; and (*c*) finally the nature of the relations that were established between different categories of primary producers themselves, and again between the primary producers on the one hand, and users, organizers, managers, and distributors of production on the other. Since clear and adequate information about the allocation and possession of resources cannot be gathered from the earliest written texts in India, it is far more important to consider the factors which govern the lack of availability of surplus and also its distribution. Although Gordon Childe's study of social evolution based on the application of the theory of surplus has been criticized, the critics do realise the need for an empirical study of increases in production and institutional arrangements for the identification and use of surplus.[6] Even the Polanyi school recognizes 'the relative importance of methods of production and efficiency in exploiting the environment and of procedures of allocation, in the study of economic anthropology.'[7]

Not much has been done to examine the potentialities of historical materialism in regard to the medieval and modern periods of Indian history, not to speak of early Indian history. What was the role of family and especially of women in the process of production? The problem of division of labour between the labouring masses and the leisured classes calls for investigation. Among the labouring masses we will have to consider the process of specialization. We need a thorough and detailed analytical history of the working population, free or servile, of vaiśyas/peasants, of śūdras/slaves, hired labourers, sharecroppers, serfs, of artisans touchable and untouchable, etc. We ought to know about their size, the calamities and diseases they suffered, and how they lived and died. Further we need to know how the primary producer managed to survive and multiply.

A study of the raw material and natural resources on which the people laboured would involve an areawise history of climatic conditions such as soil, rainfall, vegetation; of the change of river courses as in the case of the Indus, Gangetic and other systems which provide fiscal and administrative boundaries as well as cultural and linguistic limits; of the occurrence of floods, droughts and famines; and above all the history of mines and metals. A Sanskrit maxim asks us not to bother about the origins of great men. We may therefore ignore the great men of ancient India for the time being and look for the origin of the things which made

them great. We need to examine the sources and availability of tin, copper and, more important, of iron. The progressive use of metal artifacts played a crucial role in man's perpetual struggle against nature, and in man's struggle against man. It is significant that a major part of India did not have a proper bronze age, although certain parts passed through the copper phase. In many parts of the country the intermediate stages between the neolithic stage and the iron age were skipped over.

The study of the history of artifacts and artifices, tools and weapons, has been vitiated by two extreme points of view. The Aryanists and chauvinists think that everything that is great and good in the history of world civilization including some of the latest inventions originated in ancient India. On the other hand the diffusionists think that the technique of making bronze, fire-baked bricks, painted grey ware, steel, metallic money, even stone implements, the art of writing and urban life came to India from outside. If eastern and southern India are looked upon as the borrowers of elements of material culture from South-East Asia, and northern and western India as the borrowers from Western Asia, then India as a cultural unit stands dissolved. It will have to be written off so far as indigenous developments are concerned. It reflects a colonial attitude projected back into our past history. Similarities do not always mean imitations. Even borrowing presupposes a congenial climate for acceptance and adoption, and the presence of optimum environmental conditions always opens up possibilities of the indigenous origin of tools, implements and technological knowledge.

We need more and more work on the history of mining and metallurgy, and particularly the history of iron technology. It is now widely recognized that there would have been no large-scale habitations in thick-vegetation areas such as the middle Gangetic or lower Gangetic basin without the use of iron for crafts, clearance, and cultivation. This makes us question the long-lived Purāṇic lists of dynasties in Kosala, Videha and Vaiśālī before 600 B.C., notwithstanding the existence of a few chalcolithic settlements on the river banks or the confluence of rivers. An examination of place names found in early Pāli texts might throw light on the processes of clearance and cultivation. In the fourth century B.C. the classical accounts mention Indian steel, but chemical examination carried out so far does not attest its appearance before the second century B.C. The history of tools and agricultural implements, especially the iron ploughshare which provided an assured means of livelihood and led to the establishment of sedentary life, social formation and state formation merits attention. In addition to this we ought to know

more about the system of water supply such as various types of wells, tanks, canals, waterlifts, *araha**ṭ**ṭas* (Persian water-wheels), etc. In ancient times animals, the constant companions of the labouring masses, provided not only dairy products and non-vegetarian food but also supplied the primary source of energy, and in this sense served as an important means of production. The history of cattle economy and animal husbandry becomes important although the history of the buffalo, camel, horse and elephant cannot be ignored. A history of agricultural technology would also involve the study of the cultivation of such cereals as barley, wheat, rice, lentils, jowar, etc., of the various types of agriculture, of the size and location of fields, of the rotation of crops, and of seasons and rainfall.

In any study of the mode of production in early India, investigation into the use, occupation and ownership of land, pasture grounds, trees, forests, water reservoirs, mines, etc., constitutes the key to the understanding of all social developments. Since the British took over *diwani* rights in Bengal, Bihar and Orissa, there has been an on-going debate, mainly from the legalistic point of view, on the nature of land rights in pre-British India. Not much consideration has been given to different schools or traditions derived from various communities at various times in various regions of the country. Changes in land rights are linked up with changes in the law of inheritance. The Dharmaśāstra laws regarding primogeniture, special share of the eldest son, equal share of all the legitimate sons, varying shares of adopted sons, shares of the sons born of *niyoga* and from wives of different castes, and enlargement of the scope of *strīdhana* (a woman's special movable property) indicate the nature of family and property relationships in a landed society. In Gupta and post-Gupta times the Smṛti laws, mostly meant for higher varṇas, recommend *sati* and child marriage for daughters, and condemn *niyoga* (levirate) and widow remarriage, which are reserved for lower orders. The dominant ideology not only increasingly places woman and śūdra in the same category but also brackets woman with property. Is there any linkage between these family laws on the one hand and the growth of private rights in land on the other in early medieval times? What could be the social implications of the Smṛti laws of partition of landed property which appear in the fifth-sixth centuries A.D.? A study of interaction between property distribution known from the land grants and inheritance laws known from the Dharmaśāstras should prove fruitful to the institutional historian.

Although we notice clear signs of change in the land system in Gupta and post-Gupta times, the technological base of the feudal

phase has still to be explored. Without doubt agriculture expanded in peripheral areas, as indicated by the land grants, and the *Bṛhatsaṃhitā*, *Agni Purāṇa*, *Uktivyaktiprakaraṇa*, *Vṛkṣa-Āyurveda* and above all, by the *Kṛṣi-Parāśara*, all of which contain advanced knowledge of crops, weather, rainfall, fertilizers, implements, etc. There is also clear evidence about the use of the Persian water-wheel (*arahaṭṭa*) in northern India during the early medieval period. Alongside all this the supply of iron artifacts had become so common that it was possible to put it to non-functional, non-utilitarian uses such as the Mehrauli pillar of the fourth century A.D. and the Dhara pillar of the twelfth century. Without increase in production it would not have been possible to support a large number of landed magnates and their retinue who appear in this period all over the country.

While the study of the history of technology is important for the study of the lack or availability of the social surplus, no less important is the study of the problem of appropriation and distribution of the surplus product in kind or cash and surplus labour through the mechanism of kinship, religion, war, plunder, gifts (*dāna*), ritualistic ranks, taxes, tributes, trade, grants, rewards, salaries, etc. In the context of time and place each one of these can be a good subject for detailed investigation. Was the social surplus distributed in the earliest phase through the mechanism of war, kinship and communal sacrifice? It is held that the producers contributed their mite to a central pool which distributed the collected stuff among all the members of the production unit. This is called 'redistribution', and credited with removing inequalities but it also led to unequal allocation and social disparities. How did the voluntary gift system of the tribal phase take on the form of tax, tribute, trade, usury and bribery in the class-divided society? How did the brāhmaṇas come to monopolize the gifts unilaterally? Was the social surplus appropriated in the second stage through the mechanism of the varṇa system? Ancient India's juridico-legal device for the distribution of the social surplus lay in the ritual-based varṇa just as that of Greece and Rome lay in the device of citizenship. The varying ritual status conferred on the two upper varṇas several economic, political, social and ideological privileges which enabled them to claim taxes from the vaiśyas and services from the śūdras. A certain amount of agricultural commodity production existed because payment to many employees was made in cash, at least in Maurya times. It seems that in the third phase, i.e., in the Gupta and more importantly in the post-Gupta phase, surplus in the form of rent in kind and labour was extracted from the peasants through land grants sanctified by religio-legal compulsions

rather than through politico-legal compulsions, as was the case in Europe. The basic truth that the surplus produced by the peasant supports the state, landlords, traders, creditors, priests, prostitutes, pleaders, and people in towns is known to the peasants, as appears from the songs of the kisan movement of the thirties and forties of the present century, but it has to be grasped by historians and worked back with its implications in terms of time and place.

Trade and towns played an important part in the distribution of the social surplus. Whatever may have been the role of religion, political power and other similar non-economic factors in the origin of towns, the towns could not have existed without the availability of the social surplus. Similarly whatever be its other functions, the town never ceased to be a market. The question is from where did the social surplus and commodities come to the market? Did the town live on the taxes and tributes collected from the countryside? Did town-country relations indicate a form of class conflict? Was the ancient Indian town a centre of manufacture and export rather than of consumption and import? Do towns in post-Gupta times become primary centres of import and consumption? The remark of Marx that Asian history shows an undifferentiated unity of towns and country and that the town was mostly a princely camp superimposed upon the economic structure has to be examined. The earliest models of rural and urban settlements are provided by Kauṭilya, but in order to understand the nature of the relations between the two and their precise role in the overall mode of production written texts and material remains have to be studied together. Only if towns are seen as indicators of socio-economic change or as forms of concentration and consumption of the surplus, leading to social differentiation, their study becomes meaningful,

A few words can be said on the floruit and decline of towns. If we leave out the Harappa phase, archaeology makes it evident that Kuṣāṇa India saw the highest peak of urbanization. Excavations at Sonkh (Mathurā) have revealed seven layers of Kuṣāṇa structures, and only one or two layers of Gupta structures. The poverty of the Gupta layer structures in comparison with those of the Kuṣāṇa layer, however shocking to believers of the golden age, is an archaeological fact in northern India. The Kuṣāṇa phase appears to be so thriving in respect of coins, towns and structures that it has been called the golden age of Pakistan. The myth of the golden age is needed by all nations at one stage or another, but the glamour of the golden age under the Kuṣāṇas has to be shared by India, Pakistan, Afghanistan, Iran and Soviet Central Asia. Apparently this phase saw not only the peak of urbanization, but also of crafts, commerce and monetary economy.

The decline and disappearance of towns in Gupta and post-Gupta times is attested by excavations, though limited, and the Chinese accounts, and is not unconnected with falling trade, lesser use of metal money, and the almost total absence of gold coins in the seventh to tenth centuries, which reminds us of the paucity of gold coins in Europe in the ninth to thirteenth centuries. In early times we know little about various types of payments for different types of goods and services, and less about different classes of payers and recipients. If the decay of towns in the early medieval period is viewed in the context of slow-moving trade, fossilizing of craft-guilds into castes, sagging coinage, and growing payment in kind and land grants, all these processes fall into a pattern.

The problem of surplus appropriation led us into the question of trade and towns. A far more important issue involves the nature of relations that were established between the primary producers and those who organized production and appropriated the surplus, between labourers and non-labourers. In the ancient period priests, warriors, nobles and independent peasants used the services of hired labourers and slaves (both being śūdras), in craft and agricultural production. There were three components in production: free peasantry, slavery and wage labour. Their relative importance kept on changing. In the age of the Buddha peasantry was more important but in the sector of state production under the Mauryas, slavery and wage labour also gained in importance. Nevertheless by and large the vaiśyas or peasants, who were the principal taxpayers, provided the surplus produce, and śūdras, held in collective bondage, provided the labour. Political and legal institutions and instruments of coercion, as outlined in the Dharmaśāstras, were sanctified by religion and were geared to this supreme need. We have no single term to characterize this social formation but on the whole the social structure from the sixth century B.C. to the fifth century A.D. in mid-India may be called vaiśya-śūdra based society in the sense that vaiśyas were peasants, and śūdras were artisans, slaves, and hired labourers. Irrespective of the change in relations between the two higher varṇas, the social and ritualistic distance between the two lower varṇas remained considerable. The social fabric probably underwent temporal and regional variations and also coexisted with other formations. In some areas tribute-paying peasants may have formed the backbone of society, in other areas sharecroppers and wage-labourers, in some other areas slaves and wage-labourers, and yet in still other areas primitive tribal villages with communal traits. Written texts may help in pursuing this line of inquiry, but archaeology of rural settlements and social anthropology might fill in the large gaps.

The ancient production relations embodied in the varṇa system encountered a serious social crisis in the early Christian centuries, as is evident from Manu's emphasis on the need to discipline vaiśyas and śūdras and the description of the Kali age in some of the earliest Purāṇas. There is no doubt about the symptoms of the crisis, but its causes have to be explored. The crisis was overcome by modifying the varṇa order in which vaiśya peasants were relegated to the position of servile śūdras. What is more important, outside mid-India in the outer areas extensive land grants were made to religious beneficiaries, with the result that the inhabitants of these backward areas, who were hitherto almost complete masters of these lands, had now to make payments in kind and render agricultural and craft services to the beneficiaries. In mid-India, śūdras were probably given pieces of land formerly cultivated by them as slaves, hired labourers, etc., for shares and rents which they had to pay to the landlords. In any case during this period land and other agrarian resources came to be privately controlled by a considerable class of beneficiaries, religious and 'secular'. On account of this, society was divided into two basic classes, one of landlords who came to have titles to lands and villages on the strength of state charters, and the other of peasant producers who were in effective possession of land which was the chief means of production. But, because of several fiscal and administrative rights, the beneficiaries could deprive the peasants of their means of production or at any rate curtail their rights to the unfettered use of land and pastures. Thus there developed the feudal type of society in which we notice the lordship of the landed magnates over the peasants and their indirect control over the instruments of production operated by the peasants.

The impact of land grants in various regions of the country would be felt unevenly according to the existing substratum of agrarian rights—tribal, communal, familial, individual, royal, etc.,—and also according to the existing extent of crafts and commerce. We may visualize several subtypes of social formations within the broad feudal framework such as servile peasantry verging on serfdom in northern Orissa and eastern Madhya Pradesh, insecure tenantry supplying forced labour in Maharashtra, Gujarat, Malwa and Rajasthan, feudalized urban pockets in the coastal areas of western India, intensely subinfeuded landed hierarchy in Rajasthan, taxpaying religious beneficiaries in south India, etc. A study of land grants in depth might reveal shades of variations in the social formation.

I have indicated some of the problems that arise out of the theory of 'no production, no history'. We may suggest a few methods that

have to be used to study those problems. While I am rather wary about the models offered by sociology and social anthropology, I would unreservedly commend many techniques of research used by them. In particular I would like to stress the role of statistics in the interpretation of data. Generalizations acquire solidity and win acceptance only when they are backed by facts and figures. But some historians look upon facts in the same manner as a brāhmaṇa looks upon manual labour, with the result that these are entrusted to the sole charge of research assistants. Facts and figures lend credibility not only to written evidence but also to archaeological evidence. For determining the comparative prevalence of a ceramic it may be necessary to count the potsherds belonging to a particular fabric, colour and typology trench-wise, site-wise and period-wise. Possibly in northern India *c.*1000–500 B.C. was mainly a period of the use of iron weapons and not of iron tools, which became equally important about *c.*500 B.C. But for this purpose the iron artifacts of the two phases will have to be counted, classified, and compared. Similarly coins, whose main functions are economic, have to be subjected to statistical analysis in order to determine their number and volume in circulation; the same technique has to be applied to the seals.

The relation between the material remains and the literary remains of ancient times deserve our special attention. We started with text-aided archaeology, which has now led to the search for the epic sites. But now we have reached a stage in which we need to practise archaeology-aided texts. Though some beginnings have been made in correlating archaeological data with documentary data, several complexities are involved in the method. Since very few ancient texts were composed by a single author at a single time and place, the first task is to differentiate the various strata of a text and establish its stratigraphic sequence. We can locate the narrative, descriptive and didactic portions of the *Mahābhārata*, but we have yet to identify satisfactorily the *Jaya*, the kernel of the text consisting of 8800 verses in the first phase, the *Bhārata* raised to 24,000 verses in the second phase, and the *Mahābhārata* elaborated to 100,000 verses in the final phase. For this internal criteria regarding style and contents and external comparisons will have to be evolved. It may be necessary to find the frequency rate of certain terms through the computer, as has been done in the *Arthaśāstra* of Kauṭilya. Text vocabulary may be compared with inscriptional vocabulary. Curiously enough some fiscal and administrative terms used by Kauṭilya are found in inscriptions from Orissa of the eighth to tenth centuries. Once literary stratigraphy has been established, it can be put to better use in conjunction and compari-

son with archaeological stratigraphy. In many cases literary evidence may have to be modified and sometimes even discarded in favour of archaeological data.

Whatever be the other functions of language, it has primarily been a medium for expressing social and economic needs, transactions, and relationships in day-to-day life. Therefore, the subject of the diffusion of elements of material culture, and interaction between various peoples, in and outside India, can be pursued through comparative linguistics. Location of loan words for cereals, fruits, animals, metals, tools, weapons, places, gods, kin relationships, social differentiation, etc., adopted by one language from another throws light on the nature of cultural contacts. Thus Austric words for rice, coin (*paṇa*), silk-cotton and processing of cotton are found in Indo-Aryan languages in eastern India. Similarly the Indo-Aryan terms for months, seasons, wheat, wood, brick, brass, ironrod, axe, axle, scissors, oil-press, sugarcane-press, tank-diggers, cowherd caste, forced labour (*viṣṭi*), etc., are found in several Dravidian dialects and languages of central and south India. It is our job to find out when, where and how this exchange of terms takes place and what it signifies. For this we need a comprehensive comparative-dictionary of Indian languages. There are still some enclaves in which old archaic dialects survive. Several Vedic, classical and inscriptional terms can be explained with reference to their cognates still surviving in the areas in which these were used. On the other hand the changing meaning of the terms over centuries cannot be ignored, so that the meaning assigned to a Vedic word in a commentary of the fourteenth century cannot be always taken at face value. For communicating the same ideas within the same broad linguistic and cultural group different terms and styles are used by members of opposing social classes such as priests, nobles, traders, artisans and peasants. It would be therefore worthwhile to look not only into class and trade vocabulary but also into the idiom used by different classes in their mutual relations. Finally our attention may be directed to the residues and survivals of ancient customs and rituals many of which have undergone variations. For the elucidation of ancient texts and the reconstruction of the past they may sometimes be as important as the material remnants. These along with unrecorded oral folk traditions, which reflect the peasant mind and ideology, can be a good source for the social historian. Some artisan groups in the Tanjavur area retain not only oral traditions about their migrations from Saurashtra but also use the same words for their tools as are common in Kathiawar.

I have stated my views on the theories and models that have to

be discarded, discouraged, and modified, the alternatives that may be tried, the problems that have to be tackled, and the methods that may be employed. In all this my chief concern has been the study of social formations in early India in the context of the mode of production. I know that I have touched only the fringe of complex problems which do not easily lend themselves to the simplification I have attempted. But I could not resist the temptation of stating some of my thoughts on them, in the hope that they receive some consideration. In the chapters that follow we will try to apply some of these ideas and methods to the study of Vedic and post-Vedic material life and social formations.

Notes

1 Keith Hopkins, *Slaves and Conquerors*, Cambridge, 1978.

2 In the Greek context the kinship system did not have important functions; this can be inferred from Hesiod's *Works and Days*; S. C. Humphreys' *Anthropology and the Greeks*, London, 1978, p. 70.

3 According to 'neo-Marxist' anthropologists in France and elsewhere, even the religious or political system of a society may function as relations of production. Humphreys, op. cit., pp. 73-4.

4 Suvira Jaiswal, 'Caste in the Socio-Economic Framework of Early India, Presidential Address, Section I, Indian History Congress, 38th Session, Bhubneshwar, 1977; 'Some Recent Theories of the Origin of Untouchability; A Historiographical Assessment', *Indian History Congress, Proceedings of the Thirty-Ninth session*, Hyderabad, 1978, pp. 218-29; Vivekananda Jha, 'Untouchables in Early Indian History', unpublished Ph.D. Thesis, Patna University, 1972.

5 R. N. Nandi, 'Aspects of Untouchability in Early South India', *Indian History Congress, Proceedings of the Thirty-Fourth session*, i, Chandigarh, 1973, pp. 120-5.

6 S. C. Humphreys, op. cit., pp. 61-2; see also fns. 129 and 130 on p. 282, ibid.

7 Ibid., p. 62. Karl Polanyi became influential through *Trade and Market in the Early Empires*, eds., K. Polanyi, C. Aresberg and H. W. Pearson, Chicago, 1957, although his publications ranged between 1922 and 1974. A bibliographical list is given in S. C. Humphreys, op. cit., pp. 339-40.

CHAPTER TWO

Forms of Property and Subsistence in the Early Portions of the *Ṛg Veda*

The present study is confined to Books II-VII of the *Ṛg Veda*, which are considered to be its oldest portions constituting a homogeneous piece of work.[1] They were composed by the families of priests who offered prayers to the gods either on their own behalf or on behalf of the tribal chiefs who rewarded their priests handsomely. Books I and VIII-X have been consulted for purposes of comparison, but the present essay is not based on them.[2] Terms for possessions found in the *Ṛg Veda* and having parallels in other Indo-European languages may throw light on the nature of property in the earliest Vedic society. Their number however is limited, and hence negative evidence becomes more important. It may be argued that terms for certain economic activities existed in those pieces of Vedic literature which are not available, and that such terms should not be looked for in 'religious' literature. But the vocabulary of the *Ṛg Veda* is rich, and the main concern of the prayers is the material prosperity of the Aryans. Therefore the absence of words for some economic phenomena in the *Ṛg Veda* may be considered significant, especially when they are not found in other old allied languages. On the other hand we have also to take account of such terms as are found in Sanskrit and all other Indo-European languages and assign them to the earliest period of Vedic society, although all of them may not appear in the *Ṛg Veda*.

The locale of the early portions of the *Ṛg Veda* may be assigned to the land of the seven rivers, mostly covering the Panjab, but their dating is difficult. Archaeology does not offer us any clue. About a dozen theories discuss the sites and antiquities attributable to the Aryans. But the fact that the Indo-Europeans had no common word of connotation for potter, and built houses of timber or mud makes it difficult to identify their remains in a tropical zone. Certainly they used horses and war chariots fitted with copper or bronze. Their vehicles have not been found. Chariots of the second

millennium B.C. have been discovered elsewhere. Five bronze age graves in the Urals contained lightly-built wooden vehicles of cart or chariot type. Two wheels each with ten spokes were found; felloes were also discovered. Stuart Piggot assigns these chariot burials to a date around 1500 B.C.[3] But we are not sure whether they had anything to do with the Indo-Europeans. The use of horsedrawn chariots is attested in Western Asia around 1800 B.C., but we have nothing in the subcontinent except the remains of the horse in some Gandhara graves belonging to that date.[4] Therefore the inscriptional evidence containing the names of some Vedic gods from Western Asia of *c.* 1500 B.C. is the chief means of dating the *Ṛg Veda*.

However, we may refer to the results of excavations at four sites at Bhagwanpura (Kurukshetra district), Dadheri (Ludhiana district), and Katpalan and Nagar (Jullundur district); those of excavations at Manda (Jammu) can also be used for this purpose. All these excavations have been carried out by J. P. Joshi,[5] and except Manda where Grey Ware has been found along with 'late Harappan' ware, at all the other four places Painted Grey Ware, which seems to be a technological continuation of Grey Ware, has been found along with 'late Harappan' ware. While Manda is situated on the Chenab, Nagar and Katpalan are not far away from the Sutlej. Dadheri lies in the cis-Sutlej zone and Bhagwanpura is located on the Sarasvatī. Hence the geographical horizon of the sites in question falls in the Ṛg Vedic area although a good part of it overlaps with the later Vedic zone. The dates assigned to the Bhagwanpura finds range from 1500 B.C. to 1000 B.C.,[6] which more or less corresponds to the date attributed to the *Ṛg Veda*. An early date for the beginning of Bhagwanpura and other settlements is also suggested by the coexistence of the 'late Harappan' pottery which is considered to be no later than 1300 B.C. or so.

The most significant thing about these cultures is the absence of iron.[7] Although the term *ayas* is used in the *Ṛg Veda* now it is widely accepted that this is done in the sense of copper/bronze;[8] these objects have been found at these sites but not in any significant quantity. Both in respect of types and number they compare very poorly with the bronze finds of around 1400 B.C. in Iran. Again so far no cereals have been discovered at such sites, although the existence of various shapes of pottery and also that of sone pestles and querns[9] would suggest that grains were being used for eating purposes and agriculture was practised by the pre-iron Grey Ware/Painted Grey Ware people who coexisted with the 'late Harappans'.

Although the Ṛg Vedic economy was predominantly pastoral, in the sequence of social evolution nomadism and pastoralism did not precede agriculture. In fact agriculture appeared in the world scale around 8000 B.C. Even in the case of the north-western part of the Indian subcontinent we have evidence of farming and settled life around 6000 B.C. at Mehargarh near the Bolan pass on the Bolan river.[10] Pastoral and nomadic life became widely prevalent only after 6000 B.C. when cattle and the horse were domesticated. The absence of grains at the sites may be accidental, for the finds do not suggest any strong evidence of pastoralism. However a good quantity of animal bones has been discovered at Bhagwanpura and Dadheri. These include charred bones of cattle, sheep and goats,[11] which were evidently eaten. Cattle, sheep and goats were domesticated for purposes both of milk and meat.[12] At the present stage it is difficult to use the results of these excavations for supplementing or explaining the material culture of the early Vedic people.

Although the root *ar*, from which the term *ārya* (later noble in the Indian context in spite of the fact that cultivation was not permitted to the two higher orders) is derived, means to cultivate, the Family Books show the Ṛg Vedic people to be predominantly pastoral. As opposed to wild animals (*mṛga*), they domesticated *paśu*,[13] mainly cattle which were evidently valued for non-vegetarian food and dairy products, although the term also indicated horses and sometimes even human beings. The term for cow (*gau*) in different declensions occurs 176 times in the Family Books. Cattle were considered to be synonymous with wealth (*rayi*),[14] and a wealthy person was called *gomat*.[15] Terms for battle such as *gaviṣṭi*,[16] *goṣu*,[17] *gavyat*, *gavyu*,[18] and *gaveṣaṇa* were derived from cattle, which was the measure of distance (*gavyuti*)[19] and also of wealth and wergeld. *Gopa* or *gopati* was the epithet given to the king.[20] In the life of the family the importance of cow is indicated by the use of the term *duhitṛ*, one who milks, for daughter. Gods were divided into four categories, heavenly (*divya*), earthly (*pārthiva*), cowborn (*gojāta*), and watery (*apya*),[21] which again attests the importance of cows. So intimate was the acquaintance of the Vedic people with the kine that when they came across buffalo in India they called it *gaurī gavala*[22] or cow-haired just as the Babylonians when they first saw the horse, called it the ass of the mountains.

In sharp contrast to linguistic evidence for cattle rearing by the earliest Aryans that for agricultural activities is less strong. There are twenty-one references to agricultural activities in the *Ṛg Veda*, but only a few occur in its kernel. The term *kṛṣ* (to cultivate) occurs rarely in the Family Books. The word *kṛṣṭi* is mentioned 33 times in them, but it is used in the sense of people, and five peoples

(*pañcakṛṣṭyaḥ*) are mentioned twice.[23] This reminds us of the *pañca-janāḥ* and *pañcacarṣaṇiyaḥ*. In ancient Indo-European languages there is no term corresponding to *kṛṣṭi* in the sense of cultivator. In Russian we have a term *krestjanin*, earlier Christian, then 'man (in general)', whence 'peasant' is derived.[24] Curiously enough Sāyaṇa understands *kṛṣṭīḥ* in the sense of *prajāḥ* or people, though hostile.[25] Hence the common notion that *kṛṣṭi* may indicate cultivation in the Indo-European context has to be discarded. Similarly the use of the term *carṣaṇi* in the *Ṛg Veda* and the modern derivation *chāsā* (cultivator) in Bengali and *chās* (ploughing) in Maithilī do not seem to indicate the original meaning of the Vedic term. It is suggested that the term is derived from *kṛṣ*, 'to plough' or 'to till'.[26] But it is correctly thought that the term is derived from *car*, 'to move',[27] and therefore the five *carṣaṇayaḥ*[28] were five moving peoples who could be compared to the *pañcajanāḥ*.[29] It is correctly suggested that in the *Ṛg Veda* the term meant 'men' in general or 'people' conceived as active beings.[30] Apparently when the nomadic peoples called *carṣaṇi* settled down as cultivators, they continued to retain their old name, which in the second stage came to denote cultivators, and commentators therefore suggested that the term could be derived from *kṛṣ*, 'to cultivate'. We know that a similar transformation took place in the meaning of the term *dāsa*, which originally carried an ethnic signification but later became a synonym for slave as a result of the subjugation of the Dāsa tribes. Pastoralism in a semi-arid zone is inevitably accompanied by some amount of nomadism, although the broad area in which pastures are sought may be more or less fixed. Indications of mobility can be inferred from many terms used in the *Ṛg Veda*, and *carṣaṇi* is one of these terms.

The well-known term *hala* does not appear, but two other terms for plough, *lāṅgala* and *sīra*,[31] occur in the earliest books; the *varatrā* or a leather strap of the plough is also mentioned.[32] We hear of *phāla*[33] or ploughshare and furrows (*sītā*[34] and *sunu*) in Book IV, where a hymn is devoted to agricultural operations. However it has been argued by Hopkins that Book IV is the latest Family Book, and is as late as Book VIII. In a later portion of the *Ṛg Veda* Puṣan is described as marking furrows. However the basic question relates to the material of which the ploughshare was made. Marks of furrows belonging to pre-Harappan times have been discovered in Kalibangan, and the pre-Aryan practice may have been adopted by the Vedic people. Probably wooden ploughshares were used in cultivating lands which were cleared of thin forests and rendered fertile on account of floods in the seven rivers of the Panjab and a score of their tributaries. It is evident that only a few people

could be supported by this means. Clearance and cultivation were made possible through the use of hoe (*khanitra*),[35] sickle (*dātra*[36] and *sṛṇī*[37]) and axe. Clearance, building, and making of tools being an important activity, the terms *paraśu*,[38] *kuliśa*,[39] *vṛkṇa*,[40] *svadhiti*[41] and *tejas*[42] are used for axe, and *vāśī*[43] indicates some kind of hand-axe.

Cultivated fields are called *kṣetra*,[44] and fertile ones *urvarā*,[45] although this term might indicate alluvial lands as well. People produced *yava*,[46] literally barley, which was a generic term for various kinds of cereals. Wheat, one of the earliest products known to people of neolithic times and the main product of the Panjab in later times, is not mentioned. In any case except barley agricultural products are not specified. It is significant that no common terms or cognates for cereals and cultivated plants are to be found in Indo-European languages, which indicates that cultivation made progress only when the Aryans settled in different countries. If we examine the various Indo-European terms for agriculture and vegetation listed in Chapter 8 of the *Dictionary* of Buck,[47] it would appear that most Sanskrit terms for plough, furrow, cultivation, dig, spade, sickle, cereals, etc., do not have their cognates in Indo-European languages, although a few are found in the Avestan. Although the term *ar* in the sense of plough is found in Indo-European languages, yet it has no linguistic parallel in Sanskrit. Linguistically this term cannot be reduced to *hala* (plough). All this would suggest that the Indo-Aryans took to agriculture in India, and to express this activity they adopted some local words.

The terms for cattle and pasture are common to many Indo-European languages.[48] Special mention may be made of the term *pasti* found in Church Slavic, and its cognates in Serbo-Croatian, Bohemian, Polish and Russian.[49] In Rumanian we come across *paste*.[50] The term *pasti* or *paste* corresponds to *pastyā*, which is used both in the earlier[51] and later[52] portions of the *Ṛg Veda*. Altogether the term *pastya* in its various forms occurs 18 times in the *Ṛg Veda*; of these 7 occurrences are found in earlier portions.[53] Derivations from the term include *pāstya*, *pastya-sad*, *pastyā-vat*, *pastyā-vatī* and *pastyā-vān*. Although *pasti* means stall or stable in the Indo-European context, *pastyā* is interpreted as house, habitation, those living in a house, and rivers by Vedic scholars.[54] However the term *pastyāvant* is mentioned in the context of Suṣoma, Śaryaṇāvant and Ārjīka,[55] which seem to be large pasture grounds. This can be said on the basis of Pischel, who takes *pastyā* in the sense of territory between the rivers (*madhye patsyānām*),[56] and includes Kurukṣhetra in this category.[57] In two passages of the *Ṛg Veda*, *pastyāvant* is interpreted to mean a rich householder.[58] But Indo-European parallels suggest

that in the *Ṛg Veda* the term *pastya* was first used in the sense of either pasture or stall. The survivals of this meaning continue in some Indo-Aryan languages. For example in Khowar, which is a dialect of the Dardic language, *pesti* means 'store-room for chaff, barn'.[59] Later when the Vedic people settled, this term came to mean house and the *pastyāvant* came to mean a householder. We can therefore notice two stages in the evolution of the material life of the Ṛg Vedic people on the basis of the changing meaning of the term *pastya*. In other words pastoral life is followed by sedentary life. A similar inference can be drawn from the changing meaning of the term *vṛjana*. In its different declensions it is mentioned 57 times in the *Ṛg Veda*.[60] Most references occur in later portions, though a large number occur in earlier portions as well. This term is interpreted variously as enclosure, collection of cattle (*goṣṭha*), residence, collection of residences, assemblage of people living in them, army or battle, and also as *grāma*.[61] We also hear of *vrājapati*, who was the head of a tribal unit.[62]

The pastoral life of the Ṛg Vedic people is also indicated by the use of the term *vrāja*, although in later times *vrāja* came to be used more commonly for pasture grounds. In its different forms this term occurs 45 times in the *Ṛg Veda*,[63] and many of these forms are found in the earlier portions of this text. *Vraj* means cow-pen, and *vrāja* is obviously an extension from it.

Cultivation promoted settled life, and even cattle rearing presupposes some sedentary living. All this created an appropriate climate for developing the institution of property. According to linguists there are no clear terms for individual property in Indo-European languages. The sense of possession however is indicated by the word *sva* 'one's own' in several languages; it means personal belongings and is applied equally to 'mine', 'yours' and 'his'.[64] In the Family Books the idea of property, possession and wealth is conveyed by several terms, some of which signify prosperity, welfare and general well-being. The hymns are concerned with the material and not the spiritual well-being of the people. The terms used for the purpose are *rayi*,[65] *vasu*,[66] *rāya*,[67] *bhaga*,[68] *rādhas*,[69] *riktha*,[70] *rekṇa*,[71] *puṣṭi*,[72] *paṇa*,[73] *dhana*,[74] *apnas*,[75] *magha*[76] and *purukṣu*.[77] Adjectives are formed from several of these words to indicate rich people, who are also called *gomat*,[78] *draviṇah*,[79] and *revān*.[80]

How did property originate? Curiously enough *paṇa*, which later came to mean coin, and *dhana*,[81] which later came to mean wealth, appear in the earliest portion of the *Ṛg Veda* as prizes, wagers, or stakes won as a result of either war or competition. Obviously the acquisition of property involves serious effort

including war. *Loptra*[82] or loot (spoils of war) finds corresponding words in all important Indo-Aryan languages. This seems to have been the earliest source of property for the Ṛg Vedic people.

What did property consist of? In the earliest Vedic age movable property was almost identical with cows and was far more important than immovable property. In Latin the term *pecu* stands for cattle as well as movable wealth. The identical term *paśu* in the *Ṛg Veda* did not clearly have that signification, but this can be inferred. The term *paśu* comprised not only domestic animals, horses and cattle,[83] but also men.[84] In Vedic language the meaning is by and large livestock. The term *kṣu* is found in the adjective *purukṣu* 'abounding in possessions' but not specifically in livestock, which was applied to Agni, Indra and Soma. It is suggested that this is related to *paśu*, which initially had an economic sense.[85] Further, the term *rayi* became a synonym for cattle wealth. But when prayers are offered for acquiring *rayi*, the latter also includes horses, sons, sheep, chariots, plants and possibly foodgrains.[86] Gold (*hiraṇya*[87] and *suvarṇa*)[88] and copper (*ayas*)[89] are mentioned in the *Ṛg Veda*, but they do not fall under *rayi*. However *hiraṇyayā*[90] or desire for gold is expressed in the *Ṛg Veda*. We come across some kind of personal effects such as weapons; for instance a bow buried with a dead person. Personal effects also included pots, vessels, clothing, etc.

Immovable property included land and house. To take up the second first, houses were made of timber, unbaked bricks and wattle and daub. Possibly the Ṛg Vedic Aryans lived in fortified villages, the identity of which has proved illusive. But the terms *sadma*[91] and *dama*[92] used for house indicate that it was treated as property. Both wife and husband came to be regarded as the master of the house or *dama*, and hence they came to be called *dampati*. That the Indo-Europeans lived in houses is evident from the corresponding words for *dama* in their languages.[93] However no desire is expressed in the *Ṛg Veda* for obtaining houses, which shows that sedentary life was not still very strong. In contrast to it in the post-Vedic period we have a large body of literature called the Gṛhya-sūtras, dealing with domestic rites, which presuppose permanent houses. Similarly priests rarely pray for obtaining lands from the gods in the early Vedic period, although the conquests of fields (*kṣetra*) and fertile lands are mentioned.

How was property, movable and immovable, owned? Tribal wars were fought mostly for cattle, and one of the chief activities of Indra was to retrieve and recover the cattle of his patron from adversaries. The recovered or conquered cattle belonged to the tribal units called *gaṇa*[94] and *pariṣad*.[95] How they were enjoyed by

or distributed among their members, we have no means to find out.

Cattle may have been owned by large families consisting of several generations and collaterals. Till the beginning of the nineteenth century we hear of joint families of about 200 persons holding land in common in parts of north India, but whether this applied to cattle in Vedic times we cannot say. Constant prayers for sons, who, possibly because of the labour power they provided, are treated as an item of property, indicate that the Ṛg Vedic family did not have enough male members; infant mortality may have been one of the causes. But it seems to have been a very large family. In several Aryan dialects only father and mother, brother and sister, and son and daughter have independent terms for them. On the other hand a common term—Sanskrit *naptṛ*, Latin *nepos*, and Greek *anepois*—is used for nephew, grandson and cousin. This scanty nomenclature of blood relationship shows that monogamy was not well established.[96] Possibly in the Indo-European stage a man married the daughter of his father's sister or the daughter of his maternal uncle; a man never married the daughter of his father's brother or his mother's sister; probably the 'families' of both the bride and bridegroom lived under the same roof and comprised the great family as described by Homer. It is likely that such a family existed in the Ṛg Vedic age. Since there is no separate term for father of father and for father of mother in the Ṛg *Veda* and since the term *naptṛ* is used for grandson from father's side and mother's side and nephew alike, no distinction existed between the two types of grandfathers and the two types of grandchildren and they probably all lived together.

Since agriculture was far less important than cattle rearing the objective conditions for the rise of private property in land were not quite favourable. Although certain terms such as *urvarā-jit*,[97] *urvara-sā*,[98] *kṣtra-sāt*,[99] etc., indicate that arable fields formed the bone of contention in war, such references are few. On the other hand we have an overwhelming number of references to the fight for cattle. The authors of the *Vedic Index* think that *kṣetra* means separate field,[100] but it simply means cultivable lands which might include alluvial lands or small patches of cultivable lands made available by floods in the Panjab rivers. Such lands may not have necessarily belonged to individuals. The reference to the field of Apālā's father occurs in Book VIII,[101] and cannot be generalized in regard to the early Ṛg Vedic age. It would be too much to ascribe 'individual ownership in land' on this basis to the Ṛg Vedic people. In the absence of the use of the iron ploughshare and an assured water supply, cultivation may have shifted from river bank

to river bank. Since the amount of rainfall in the Panjab is not more than 20 inches, the fight for water appears to be as important as that for cows. This implies that occupation of a piece of land did not last long. We hear of the gift of cattle, slaves, chariots, horses, etc., but not of the gift of land. Nor is the king represented as the protector of arable fields (*kṣetra*) (as is the case in the *Dīgha Nikāya*)[102] or even of the land in general. Evidently one of the strongest reasons for the office of the king is the protection of property, but in the Ṛg Vedic age the king protects cattle (*gopa, gopati*); he does not protect land. Clan ownership of land therefore may have obtained at this stage. Referring to a German tribe called Swevi, Caeser stated that they had no divided or private tillage whatsoever. Tacitus informs us that some German tribes changed (or reduced) the cultivated land every year, and enough common land was left in the process. Possibly the Ṛg Vedic tribes followed a similar practice to that adopted by the German tribes. Both cattle and land may have been owned by the great family described above. The later Vedic age gives clear evidence of the continuity of the practice according to which land could not be given away without the consent of the clan or *viś*. Even when patriarchal families came to own land in later times, for purposes of transfer through sale and other means members of kin were given preference over strangers in the law-books.

It seems that the Ṛg Vedic families cultivated their lands themselves. Indo-European languages have no common word for wages.[103] The *Ṛg Veda* knows of domestic slaves, mostly women, but not of slaves or wage earners or hired labourers (*karmakaras*), who appear as a factor in agricultural production in the age of the Buddha. Domestic slaves may have been the first 'wage earners', who were paid for their labour by being adopted in the family and fed and maintained. The idea of prize and reward appeared first, and that of wage next.[104] The term *miḍha* found in Sanskrit, Greek and Iranian and some Indo-European languages,[105] means prize in competition and recompense for some work.[106] Prize seems to be a relic of distribution by lot. In any case the category of hired workers had not come into being in the earliest Vedic period, and private property could not be accumulated through hiring people for wages.

Cognates for the processes of leasing and hiring,[107] lending and borrowing,[108] sale and purchase[109] do not exist in Indo-European languages. This also seems to be true of the early portions of the *Ṛg Veda*. The term *ṛṇa*[110] occurs in the early portions, and indicates the mutual obligation to pay one another. No term for interest is found. Since we have no coins belonging to Vedic times, the

practice of charging interest might not have started. We come across *kriṇāti*, the word for 'buying' in Indo-Iranian languages,[111] but none for 'purchasing', although the term *vikrīta* is found in the *Ṛg Veda*.[112] In the Indo-Iranian phase sale and purchase may have existed on a limited scale in the form of barter. In the earlier phase there is no term for price,[113] which precludes the practice of sale and purchase. The comparison of Indo-European languages furnishes no common designation for commerce as a specific activity, as distinguished from buying and selling.[114] This is also true of the *Ṛg Veda*. Sometimes the term *paṇi* is understood as merchant or a niggardly person, but really it means one who possesses *paṇa* or wealth, whatever may be its nature. Paṇis are represented as non-sacrificers who fall in the same category as the Dasyus; they are depicted as hiding their wealth, mostly in the form of cows, in mountain fastnesses or fortified places.[115] Their strong condemnation in many references[116] shows that they do not belong to Vedic or Aryan society. It is evident that commercial affairs as such are not positively defined in the *Ṛg Veda*, and there is no specific connotation for it. Commerce therefore was 'an occupation which did not correspond to any of the hallowed, traditional activities';[117] the term *vāṇijya* or commerce came to be used in later times. Therefore the practical absence of commerce in the early Vedic age could not generate conditions for the accumulation of private property and growth of social inequalities.

It is difficult to form a clear idea of the process of accumulation and distribution in the age of the *Ṛg Veda*. The whole social fabric was possibly based on some kind of gift economy, respected by custom in the beginning and sanctioned by force at a later stage. The term for giving is very frequent in the *Ṛg Veda*, and most *mantras* refer to it in some form or the other. The section called *dāna-stuti* eulogizes the gifts made by princes to priests. Gods are offered devotion, oblations, *soma* drink and sacrificial shares, and in return they are asked by priests to provide cattle, sons, horses, chariots, etc., presumably to their princely patrons or tribal chiefs. The whole process presupposes a system of exchange of gifts which is typical of tribal people,[118] and obviously reflects some kind of circulation based on gifts. It seems that the income of a tribal chief came in the form of gifts and was spent similarly. It has been estimated that in a pre-field agriculture society a government could not rule over more than 500,000 people.[119] This was possibly the maximum population a Ṛg Vedic government had to deal with; its needs were naturally simple. They were met out of the spoils, an early form of property, captured from enemy tribes, and out of tributes exacted from both hostile tribes and tribal compatriots.

The term *bali* occurs several times in the sense of offering or tribute.[120] In all likelihood in the initial stage the tribal kinsmen gave trust and voluntary presents to the tribal chief, who in return led them from victory to victory and allotted them a share in the spoils of war. This voluntary respect and payment may have become customary and later compulsory in the case of the tribal people. As regards defeated hostile tribes, it is certain that they were made to pay *bali* or tributes.

Possibly offerings were made to the chiefs in cattle, dairy products and foodgrains. How were these consumed? Periodical sacrifices held by the tribal princes provided an important occasion for the distribution of these 'gifts'. The lion's share went to priests in lieu of the prayers they offered to gods on behalf of their patrons. In Book VIII the invoked god is asked to provide wealth only for priests, princes and sacrificers.[121] This suggests that such a system of distribution benefited the higher segments of society. Ordinary members of the tribe may have received a share, for the terms *aṃśa*[122] and *bhāga*[123] are repeatedly used to convey the practice of apportioning, but we cannot indicate its nature. Distribution seems to have been an important function of the *vidatha*,[124] and members of this folk assembly received their shares. Whatever may have been the mode of sharing cattle, animal flesh, dairy products, foodgrains, etc., it is clear that certain people, especially princes, chiefs and priests, were getting richer, and others were getting poorer; even the labour of domestic slaves, particularly that of women, was exploited by richer people. If we rely on a passage from Book X the disparity seems to have increased towards the end of the Ṛg Vedic period, and making of gifts by the rich to the poor was suggested as the only solution, a remedy later recommended by Gautama Buddha. The rich were asked to satisfy the poor implorer on the ground that he who does not give finds none to comfort him and that wealth keeps on ever moving like the wheels of a car from one to the other.[125]

Notes

1 A. B. Keith, *Cambridge History of India*, ed., E. J. Rapson, Vol. I, Delhi, 1955, p. 69; P. S. Deshmukh, *The Origin and Development of Religion in Vedic Literature*, Oxford, 1933, pp. 201-2.

2 Although Book VIII and the first 50 hymns of Book I are attributed to the family of the Kaṇvas, they appear to be of later origin than the second part of Book I.

3 Stuart Piggot, 'Bronze Age Chariot Burials in the Urals', *Antiquity*, XLIX, 1975, pp. 289-90.

4 Information from Professor A. H. Dani. Recently horse remains belonging to late Harappan times have been reported from Surkotada in Kutch district.
5 Jagat Pati Joshi and Madhubala, 'Life during the Period of Overlap of Late Harappa and PGW Cultures', *Journal of the Indian Society of Oriental Society of Oriental Art*, NS, IX, 1977-78 pp. 20-9.
6 Information from J. P. Joshi.
7 Joshi and Madhubala, op. cit., p. 21.
8 s. v. *ayas*, *VI*, i, 31-2, p. 25.
9 Joshi and Madhubala, op. cit., p. 25.
10 *Hindustan Times*, New Delhi, 24 October 1980.
11 Joshi and Madhubala, op. cit., p. 25.
12 Ibid.
13 s. v. *paśu*, Monier-Williams, *Sanskrit-English Dictionary*.
14 *RV*, II.1.12, 2.13, 4.8, 7.1, 9.4, 11.13, 13.4, 15.5, 19.5, 21.6, 25.2, 30.11, 38.10, 40.1, 6; 41.9; III.1.19, 7.3, 14.6, 24.5, 45.4, 51.5, 54.13, 16, 62.3; IV.2.7, 12.2, 33.8, 34.10, 35.6, 36.8-9, 49.4, 51.10; V.4.11, 25.7, 50.5, 55.10; VI.6.7, 13.1, 14-5, 15.12, 31.1, 59.9, 68.6; VII.10.5, 15.5, 32.21, 84.3-4; VIII.6.9, 24.3, 31.11, 40.12; IX.5.3, 40.5-6, 61.6, 97.24, 101.7.
15 *RV*, II.41.7; VI.45.21; VII.27.5, 77.5, 94.9; IX.41.4, 61.3.
16 *RV*, III.47.4; V.63.5; VI.31.3; 47.20; 59.7; VIII.24.2; IX.76.2.
17 *RV*, II.25.47, 114.8, 121.15, 151.1; III.31.10, 39.4; IV.38.4; V.34.8, 45.9; VI.19.12, 26.2; VII.32.16.
18 *RV*, VIII.53.8; IX.97.15.
19 *RV*, VI.47.20; VIII.60.20.
20 The Slavic term *gospodin* meaning gentleman literally means cattle owner.
21 *RV*, VI.50.11.
22 The term *govāla* literally means cow-haired, but it seems to have been applied to the buffalo in the beginning.
23 *RV*, II.2.10; IV.38.10.
24 Carl Darling Buck, *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*, Chicago, 1949, 8. 11. 6.
25 *RV*, VI.21.2; the exact words are: *śatru saṃbandhinīḥ prajāḥ*. In *RV*, VI.18.3, the term *kṛṣṭiḥ* is interpreted by Sāyaṇa as *putradāsādin*.
26 s.v. *carṣaṇi*, *VI*, i, 257, fn. 3.
27 Ibid., fn. 2.
28 Ibid., 258.
29 Ibid.
30 Ibid., 257.
31 *RV*, IV.57.8.
32 *RV*, IV.57.4.
33 *RV*, IV.57.8.
34 *RV*, IV.57.6-7. According to E. W. Hopkins the 'five' mentioned several times in the *Ṛg Veda* in the context of tribes refers to 'the five tribes whose respective family—or tribe—collections make the first Rig-Veda'. Each tribe is identified with one special family of singers, and their output is represented in the collection by the Fourth Book, which contained the hymns of the Gautamas. E. W. Hopkins, 'Numerical Formulae in the Veda', *Journal of the American Oriental Society*, XVI, 1896, pp. 275-81, 278.

35 *RV*, I.179.6.
36 *RV*, VIII.78.10.
37 *RV*, I.58.4; IV.5.
38 *RV*, VII.104.21.
39 *RV*, III.2.1.
40 *RV*, III.8.7.
41 *RV*, II.39.7; III.2.10; V.7.8; VII.3.9.
42 *RV*, VI.3.5; 8.5, 15.19.
43 *RV*, V.53.4.
44 *RV*, V.62.7; IX.85.4, 91.6.
45 *RV*, IV.38.1, 41.6; V.33.4; VI.20.1, 25.4; VIII.21.3, 91.5.
46 *RV*, II.5.6, 8.3, 14.11; V.85.3; VII.3-4; VIII.2.3, 22.6, 63.9; IX.55.1.
47 Buck, op. cit., Chapter 8.
48 Ibid., 3.16 Pasture, Graze; 3.17 Pasture (substantive); 3.20 Cattle.
49 Ibid., 3.16.
50 Ibid.
51 IV.1.11, 55.3; VI.49.9; VII.97.5 quoted s.v. *pastyā*, *VI*, i, 512.
52 I.25.10, 40.7, 164.30; VIII.27.5 quoted ibid.
53 Counted on the basis of *A Vedic Word-Concordance*, i, pt. IV, pp. 1982-3.
54 *VI*, i, 512.
55 *RV*, VIII.7.29 quoted in *VI*, i, 512.
56 *Vedische Studien*, ii, 219 quoted in *VI*, i, 513 with fn. 2 under *pastyā-vant*.
57 *VI*, i, 512.
58 *VI*, i, 512-13.
59 s.v. *pastiya*, Turner, *A Comparative Dictionary of the Indo-Aryan Languages*, No. 8017.
60 Counted on the basis of *A Vedic Word-Concordance*, i, pt V, pp. 2990-1.
61 s.v. *vṛjana*, Monier-Williams, *Sanskrit-English Dictionary*; cf. *VI*, ii, 320.
62 *VI*, ii, 341.
63 Counted on the basis of *A Vedic Word-Concordance*, i, pt V, pp. 3047-8.
64 Emile Benveniste, *Indo-European Language and Society*, London, 1973, pp. 269-72.
65 *RV*, II.1.12.
66 *RV*, IV.34.10; VI.19.5.
67 *RV*, II.16.1; V.20.4, 41.5; VII.95.2.
68 *RV*, II.38.10; III.56.6; V.46.3, 49.1; 87.18; VI.49.14; VII.37.8, 41.3, 5; VIII.61.5.
69 *RV*, III.41.6; IV.31.9, 51.3; V.39.1, 53.13; VIII.4.4, 6.46, 55.1, 90.6; IX.61.27.
70 *RV*, III.6.2, 31.2.
71 *RV*, VI.20.7; VII.4.7, 40.2; VIII.4.18, 46.15.
72 *RV*, II.13-14.
73 Benveniste, op. cit., p. 291.
74 *RV*, V.87.18.
75 *RV*, I.113.9; X.36.13 (These are later portions).
76 *RV*, III.13.3; IV.32.8; VIII.14.4, 21.17; IX.75.5.
77 *RV*, II.40.4.
78 s.v. *gomat*, *Sanskrit-English Dictionary*.
79 *RV*, II.6.3; VI.16.32; IX.85.1

80 *RV*, X.60.4.
81 *RV*, V.87.18.
82 Benveniste, op.cit., p. 135.
83 *RV*, V.61.5.
84 *RV*, III.62.14.
85 Benveniste, op.cit., pp. 42-3.
86 The term *vāja* is interpreted as *anna* by Sāyaṇa, but it generally means strength.
87 *RV*, II.15.9, 33.9; IV.10.6, 17.11, 32.19; V.60.4; VII.90.6.
88 *RV*, X.68.3.
89 *RV*, IV.21.7; V.30.15; VI.3.5, 47.10.
90 *RV*, VII.66.8.
91 *RV*, III.55.14; IV.1.8; V.87.7; VI.11.5; VII.18.22.
92 *RV*, II.1.2, 8.3; III.6.3, 48.2; IV.9.4; V.43.12; VI.1.19.
93 Benveniste, op. cit., p. 241.
94 *RV*, VI.56.5.
95 *RV*, IV.2.17.
96 L. Krader, ed., *The Ethnological Notes of Karl Marx*, Assen, 1972, p. 122.
97 *RV*, II.21.1.
98 *RV*, VI.20.1.
99 *RV*, VII.19.3.
100 *RV*, I.110.5 speaks of the measuring of the fields, but it is a late reference.
101 *RV*, VIII.91.5.
102 *DN* (Pali Text Society), iii, 93ff.
103 Benveniste, op. cit., p. 131ff.
104 Ibid., pp. 131-7.
105 Ibid., pp. 131-4.
106 Ibid., p. 131.
107 Ibid., pp. 125-30.
108 Ibid., p. 145ff.
109 Ibid., p. 105ff.
110 *RV*, IV.3.13; *VI*, i, 109-10.
111 Benveniste, op. cit., p. 102.
112 *RV*, IV.29.9.
113 Benveniste, op. cit., p. 131.
114 Ibid., p. 113.
115 *RV*, II.24.6; III.58.2; V.34.7; IV.25.7; VI.13.3, 33.2, 39.2, 44.22, 45.31, 51.54, 53.3, 5-6, 61.1; VIII.9.2., 19.9.
116 Ibid.
117 Benveniste, op. cit., p. 118.
118 Marcel Mauss, *The Gift*, London, 1970, Chapters I and II.
119 Karl Marx quoted in Krader, op. cit., p. 101.
120 *RV*, V.10.10; VII.18.19.
121 *RV*, VIII.97.2.
122 *RV*, II.1.4, 19.5; III.45.4; VII.32.12.
123 *RV*, II.10.6, 23.2, 38.5; III.60.1; VII.56.14; VIII.36.1, etc.
124 R. S. Sharma, *Aspects of Political Ideas and Institutions in Ancient India*, 2nd edn., Delhi, 1968, pp. 82-3.
125 *RV*, X.117.5.

CHAPTER THREE

Booty Capture, Distribution and Differentiation in Ṛg Vedic Society

It is not possible to think of one type of social formation represented by the *Ṛg Veda*. Only Books II-VII, which are called Family Books, are considered to be the earliest portions of this oldest specimen of Indo-European literature, although as shown earlier, Book IV is the latest Family Book. The Family Books do not contain purely Vedic traditions. Even in these Books Vedic and non-Vedic traditions are mixed up. This can, for example, be said of Book III, which is supposed to have been composed by Viśvāmitra, who acted as priest to a tribe which advanced to fight on the Vipāś and Śutudri rivers from the east.[1] The very name Viśvāmitra, means friend of the tribes, evidently Vedic, who was accommodated into Vedic kinship society through the institution of friendship. Post-Ṛg Vedic traditions of about 600 B.C. found in the *Aitareya Brāhmaṇa* state that his fifty condemned sons who were evidently non-Vedic or non-Aryan produced several tribes.[2] Books I and X, which account for a large part of the *Ṛg Veda*, are admittedly late, both from the point of view of style and the nature of the material culture they reveal. Most references to field agriculture are confined to these *maṇḍalas*. It might be useful to attempt a separate study of the two chapters, but in any case the evidence furnished by them, unless repetitive and corroborative, should be used for the late phase of the early Vedic period, shading off into the post-Ṛg Vedic period from around 1000 B.C.

The fact that the *Ṛg Veda* presents the story of perpetual tribal conflicts is well known. But the overtones of racial conflict between the Aryans and the aborigines given to these conflicts by the authors of the *Vedic Index* and many other Indian and foreign scholars is unwarranted. In spite of diligent digging for the last thirty years it has not been possible to adduce proof of mass-scale confrontation between the Ṛg Vedic people and the original inhabitants of north-western India. In fact the spread of Indo-Aryan languages on both sides of the Hindukush is fatal to the theory which imagines

the Aryans imposing themselves as a small landholding minority or aristocracy over the overwhelming majority of the aborigines who were dispossessed of their lands.

If we examine carefully the passages relating to tribal conflicts we find further grounds to hold that they are not ancient counterparts of the long conflict between white settlers and the original inhabitants in Asia, Africa, America and Australia. Various Ṛg Vedic tribes, generally led by Indra, are represented as fighting the Dāsas or Dasyus, although occasionally they also encountered the Paṇis. There are far more references to the slaughter of the Dasyus than that of the Dāsas. The term *dasyu-hatyā* occurs frequently,[3] which leaves no doubt that the Dasyus were the most bitter enemies of the Ṛg Vedic people and they fought the longest. The Dasyus, who led a different mode of life in Ṛg Vedic times, are considered to be identical with the aborigines of India. One of the grounds for this view is that in later traditions the term Dasyu came to be identified with robbers and predatory backward tribals living in the forests. But this cannot be a valid argument for ascribing to them the same ethnic character in the age of the *Ṛg Veda*, especially in view of the Iranian evidence. *Dasyu* corresponds to *dahyu* in the Iranian language, and means land.[4] It is therefore a convincing conclusion that all references to perpetual conflicts between the Ṛg Vedic tribes and the Dasyus refer to those between the two main branches of the Indo-Iranian people.[5] It has been reasonably postulated that the Indo-Aryans came to India in successive waves, and evidently the Dahyus were one of the earliest waves to cross the Hindukush. Their pattern of living may have changed in this country on account of their contact with the people of the non-Aryan cultures, which accounts for the condemnation of their way of life by the Ṛg Vedic 'Aryans'. Similarly they may have resisted the new immigrants who apparently came in large numbers. A similar hypothesis can explain the conflict between the *dāsa viś* and the *ārya viś*, which was not so bitter and frequent.[6] The Dāsas correspond to the Dahaes, a tribal people in Iran, and literally the term *dās* means man.[7] Possibly in their migration to India the Dāsas had just preceded the mighty and massive wave of the Ṛg Vedic people and were not so completely acculturated, inasmuch as they maintained some links with the original horde. Consequently they do not appear as prominent targets of Ṛg Vedic attacks as the Dasyus do.

It is needless to cite examples of many inter-tribal and intra-tribal conflicts in Ṛg Vedic society. The case of the Battle of Ten Kings or *daśarājña* fought on the Ravi, mentioned in Book VII, is well known. In it each of the allies and their adversaries appear as a

mixed group consisting of Vedic and non-Vedic peoples.[8] In addition to this we hear of several other wars between Vedic tribes led by their princes whose morale was boosted by the prayers of priests.

War in the predominantly tribal society of the *Ṛg Veda* was a logical and natural economic function. It is rightly stated, man hunting was the logical extension of animal hunting. The legacy continued even in post-Vedic times because in the Dharmaśāstras war is recognized as one of the legitimate modes of livelihood, and justifies the existence of the kṣatriya varṇa. The Ṛg Vedic tribes, being primarily herdsmen who lived on beef and dairy products, fought one another and outsiders for the sake of cattle. This is clear from several words such as *gaviṣṭi*, *gaveṣaṇa*, *goṣu*, *gavyat* and *gavyu*—which mean war.[9] Other animals such as horses, goats and sheep were also prized, particularly horses which may have been mainly in the possession of princes, tribal chiefs and elders. The spoils may also have consisted of the personal effects of the defeated parties, e.g., the dresses, weapons, etc. Land and crops did not form the bone of contention. Women, who are rightly called the producers of producers in a tribal context, were of course an important object for which wars were fought. At present there is dearth of women in relation to men in the north-western part of the subcontinent. We have no reasons to think that this biological phenomenon did not operate in the second half of the second millennium B.C. also. But when we posit the coming of the Indo-Aryans in successive waves, it is reasonable to think that women died in the course of long and difficult treks, and wives were needed badly for replenishing the stock. It is for this reason that we always hear of women slaves, captured from the subjugated Dāsa people; men slaves are rare in the *Ṛg Veda*. The legacy of women being an important issue in later wars continued in a changed form when some kings fought wars for the hands of beautiful princesses.

War was therefore the main source which supplied, to the tribal chief or prince, cattle, other animals and women in the shape of spoils. We find a member of the *gaṇa*, a large fighting tribal unit, announcing in the meeting of the *gaṇa* that he had surrendered everything and concealed nothing in proof of which he showed all the ten fingers of his hands.[10] But excepting the spoils of war and occasional tributes in the form of animals, and perhaps metal, collected from defeated tribes, there was hardly anything else available to the tribal chief which he could distribute. The Ṛg Vedic people were primarily not food-producing but pastoral, as is revealed by the kernel of the text. The all-pervasive influence of cattel can be inferred not only from some terms used for war but also from

those used for tribal chief (*janasya gopa*), measure of time (*saṃgavan, godhuli*) and distance (*gavyuti, gocarman*), kinship units (*gotra*) and compensation for manslaughter *śatadāya*. The Vedic people were so obsessed with the cow that when they came across the buffalo in India, they called it *gaurī*[11] and *gavala*,[12] extensions of the term *go*. In the cattle rearing society, out of their love for the warlike and other qualities of the *rājā* his kinsmen, members of his *jaṇa* or *viś*, occasionally gave him a portion of their cattle or of dairy products as *bali* or voluntary offering. But in an essentially tribal, pastoral society there was little scope for collecting any tax from the tribesmen or outsiders.

Taxes on a regular basis appear clearly only in a full-fledged agricultural society, but agriculture was not important in the social formation represented by the Family Books of the *Ṛg Veda*. There are twenty-one references to agriculture and ploughing operations in the *Ṛg Veda* but only a few occur in Book IV,[13] which itself is considered to be a late addition in which relevant passages are considered to be of late authorship.[14] The remainder of such references, which comprise the greater bulk, occur in Books I and X. The chief cereal produced by the Ṛg Vedic people was *yava* or barley, which ripens in sixty days, and could serve as food for men and fodder for cattle and horses. The two staple crops of the country, wheat and rice, were not known to them. Naturally there is hardly any mention of the gift of foodgrains in the *Ṛg Veda*, and its payment in the form of tax to the prince was out of question. Hence only spoils of victory such as cattle and women supplemented by occasional tributes in cattle, other animals and dairy products provided by the subjugated tribes, and similar gifts and presents made by the tribesmen, could be distributed by the tribal prince.

In some studies based on field work among primitive tribes carried out during the last twenty-five years a significant fact has been noticed.[15] In tribal production units, varying in form and size according to the labour processes such as hunting, cattle rearing, cultivating, etc., whatever is collected or produced by the tribesmen is submitted to the tribal chief or elder who is the head of the unit. This is called transfer of eatables from the periphery to the centre. In such a unit the tribal chief distributes the produce equally among his tribesmen. This is called redistribution.[16] On ceremonial occasions well-provided chiefs practise feeding, entertaining and offering gifts to their tribesmen on a large scale; these gifts are intended for acquiring prestige and influence by means of ostentatious distribution. This is called potlatch.[17] We may examine whether the practices of potlatch and redistribution obtained at any stage in the Ṛg Vedic society.

The *Ṛg Veda* does not refer to conspicuous display of communal consumption organized on ceremonial occasions by the tribal prince. However, the hymn called *dānastuti* or praise of gifts, which is considered to be of late origin,[18] speaks of enormous and patently exaggerated numbers of cattle, female slaves and horses given to the priests who are never tired of singing the praises of their patrons. In later Vedic texts representatives of all sections of the community including Vedic and non-Vedic men and women, are associated with several public sacrifices, especially the coronation ceremony, organized by the king, whose authority was still on the way to becoming territorial from tribal. Apparently these people were fed on the occasion. But if we look for later survivals of this practice, we have the case of the *aśvamedha* performed by Daśaratha in the *Rāmāyaṇa.*[19] To this sacrifice all brāhmaṇas, kṣatriyas, vaiśyas, śūdras and others were invited and fed to their heart's content for several days; provisions for feasts had been collected well in advance. Apparently even when the tribal society of Vedic times had been divided into the varṇa-divided society in post-Vedic times, the practice of potlatch continued. It continues even now as a costly ritual in a distorted form in the twelve-village or eighty-four-village feasts[20] organized by some rich people who invite their clansmen to impress them and others with their great capacity to spend.

Evidence regarding redistribution in the *Ṛg Veda* is a little difficult to come by. Elsewhere I have discussed the distributive functions of two institutions, the *gaṇa* and the *vidatha.*[21] A passage from the *Atharva Veda*, which exhorts the people to exert together like the spokes of a wheel in deference to the wishes of their elders, speaks of their receiving equal shares in connection with the functions of the *gaṇa*, which was undoubtedly a tribal association.[22] We have no reason to think that the situation was different in the age of the *Ṛg Veda*; in fact such a practice among tribal communities may have been all the more prevalent. The fact that a member of the *gaṇa* surrendered all that he had looted in war to the tribal commander is significant. Unless he was given back a portion of the spoils brought by him and presumably by other members, he would be left with no means to support him.

Whatever may have been the precise kinship based character of the *vidatha*—it was either a wider tribal assembly or a limited extended family[23]— its redistributive functions are more than clear from two references found in the Family Books. At one place people are asked to gather in the *vidatha*, in which whatever is brought in by Savitar is distributed.[24] At another place Agni, who is identified with king Varuṇa, is asked to distribute whatever is available in the *vidatha.*[25] Evidently both Agni and Savitar are the divine counter-

parts of human tribal chiefs who practised redistribution at some point of time in the age of the *Ṛg Veda*. Spoils of war, or gifts and occasional tributes were redistributed. They apparently consisted of cattle, sheep, goats, horses, weapons and women slaves. They may have been supplemented by game obtained by hunting and some products of cultivation given as *bali*.

Several terms used frequently in the *Ṛg Veda* reflect the widespread practice of distribution. Of course the use of *dāna* for this purpose is well known.[26] But certain other terms derived from the roots *bhaj*, *van* and *san* attest the practice of distribution more clearly. In its different forms, which do not include *bhakta* (distributed), the term *bhaj* (to distribute) occurs 34 times in the *Ṛg Veda*.[27] The term *bhāga* (share) in its different formations including *bhājayuḥ* (sharing with others) and *bhāgadheya* (share) occurs 58 times in the *Ṛg Veda*.[28] The term *van*, which is interpreted by Sāyaṇa to mean distribution,[29] is also taken to mean to win and to procure things for oneself or for others.[30] It is interesting to note that two derivations from this root, namely *vaniṣṭha* and *vanīyas*,[31] mean munificent, liberal givers. In a late passage *vanatam*[32] can be understood in the sense of distributing, and in an early passage *vanate*[33] appears in the sense of being meant for distribution. It is significant that in its various forms the term *van* occurs more than 70 times in the *Ṛg Veda*.[34] It seems that the various forms of this term were generally used in the sense of distribution of booty, for some indication of this practice is found in the survival of the word *bonu* in the sense of plunder in the Khowar dialect of the Dardic language.[35]

Similarly verbs derived from the root *san* are understood in the sense of division and distribution by Sāyaṇa.[36] In the context of the *Ṛg Veda* Monier-Williams takes *san* to mean not only to gain, obtain as a gift, possess and enjoy, but also to gain for another, procure, bestow, give and distribute.[37] The term *saneru*[38] means 'distribution' or *sambhaktṛ* according to Sāyaṇa. We may also take note of some other words derived from the root *san*. For instance, *sanitā* is used in the sense of distributor in an early passage of the *Ṛg Veda*.[39] *Sanugī* appears in the sense of a woman distributor.[40] *Sanaye* appears in some earlier passages in the sense of a thing meant for distribution,[41] and *sanāni* stands for objects which are to be divided.[42] The term *sanajā-sanena* is used for something which is the result of distribution.[43] It is significant that in its various forms the term *san* appears about 74 times in the *Ṛg Veda*.[44]

We also hear of the distribution of *vāja*, interpreted as *anna* or food by Sāyaṇa, through the agencies of Indra or Agni.[45] *Vāja* is also taken to mean wealth or strength.[46] Further indication of distribution is provided by the use of a compound *vāja-sāti*, occurring in

its different forms in the *Ṛg Veda*. The term *vāja-sāti* apparently refers to the distribution of food. Sāyaṇa explains *vāja-sātaye*[47] as food meant for distribution.[48] In most references, several of which find place in the earlier portions of the *Ṛg Veda*,[49] the distribution of food or wealth, as the case may be, refers to that obtained in war. Other formations of *vāja-sāti* in the sense of distribution of food or wealth are also found in the earlier portions of the *Ṛg Veda*. This is the case, for example, with *vaja-satim*,[50] *vāja-sātam*,[51] *vāja-satamā*[52] and *vāja-sātan*.[53]

A fair number of references speak of distribution practised by chiefs and gods. Thus the chief of the *vṛjana* (*vṛjanasya rājā*) destroys the enemies, captures their wealth and distributes it among his people.[54] We also hear of share in the spoils captured in war.[55] At one place the *maghavan arya*, who is taken by Sāyaṇa in the sense of rich (*dhanapati*), Indra is asked to distribute (*bhaja*) cows to the people.[56] At another place the prayer to Indra runs thus: 'Whatever cow or horse you distribute as share, give it to a *soma* sacrificing, gift-making sacrificer, none to a Paṇi.'[57] A reference is made to obtaining all eatables or *anna* from those people who do not believe in Aryan gods and speaks of the desire to distribute it.[58] Several other gods, who seem to be divine counterparts of tribal chiefs, are credited with the act of distribution. Tvaṣṭā, who is described as glorious, lifegiver, bounteous and bestower, is called the first distributor.[59] It is important that this reference occurs in the kernel of the *Ṛg Veda*. A similar sentiment is expressed in the Tenth Book, which describes the assembly of the Ṛbhus (*Ṛbhusaṃgha*) as not only intent on distribution but also as engaged in distributing because of prayers made to them.[60] It seems that this distribution was supposed to be effected by Agni and Tvaṣṭā in the enclosed pasture or *pastya*.[61] Again a hymn, which is difficult to interpret, has been understood in the sense of the sun's rays distributing all Indra's wealth.[62] It is further desired that people may share these treasures with those who are born or would be born.[63] Similarly in some *mantras* of the *Ṛg Veda* the term *bhoja* does not mean one who enjoys, but a person who confers food (*anna*) on those who long for it.[64]

We have at least two references which suggest gift or distribution of cultivated land among the people. It is stated that Viṣṇu made the land fit for cultivation and then gave it to the people.[65] More clearly in another context it is stated that Indra, the great thunder-wielder, with the help of his white-complexioned comrades, distributed the cultivated land, the sunlight and the waters.[66] This passage occurs in the First Book of the *Ṛg Veda*, and hence may indicate a later stage of development, but all the same the practice

of distributing the cultivable land was a natural extension of cattle distribution by the tribal chief, the human counterpart of divine Indra. The practice obviously began when the Vedic people took to farming.

In several passages the idea of reciprocal gifts between gods and men is emphasized. In Book I, rich (*maghavāno*) and brave worshippers bring oblations to Agni and in return win food and long life. People, presenting to the gods their share of glory (*bhāgaṃ deveṣu śravase dadhānāḥ*), expect booty from their foes.[67] A similar idea is expressed in another passage of the same book. A share (*bhāga*) is offered to the Aśvins for protection against the wolf (*vṛka*).[68] This bilateral distribution in the divine world may reflect a similar practice of mutual exchange in human society.

The *Ṛg Veda* does not clearly show whether food was distributed among members of the kin-based groups of different sizes on a reciprocal basis. But this can be inferred from an examination of survivals of terms used for food shares and the domestic rites and customs prevalent among speakers of the Indo-Aryan languages, especially in northern India even in modern times. The primitive practice that food procured by a clan was distributed among its members seems to have prevailed among the Indo-Europeans at some stage. It is difficult to pinpoint the time when the system of common meal obtained on a large scale, but a careful study of the terms used for meal, food and share attests its existence. One of the earliest terms used for share is *aṃśa*, which in the dialects of eastern Uttar Pradesh and Bihar is used in the sense of meal or food to which an absentee member, invited to a ceremonial clan feast, is entitled. In the *Ṛg Veda* the term *aṃśa* is used in the sense of share distributed by Agni in the *vidatha*.[69] The derivation of this term is not very clear. In the opinion of Monier-Williams it is 'probably' derived from the root *aś*,[70] which means to eat and from which nouns such as *aśana*, *prāśana* are formed. *Aṃśa* can possibly be also connected with *aṃśa*, which means shoulder.[71] It seems that when animals were obtained as game, the shoulder was shared out and distributed. This hypothesis may be doubtful, but the connection of *aṃśa*, which came to mean share, with eating or food seems to be strong.

Another Vedic term for share is *bhāga*. It is derived from the root *bhaj*, to divide. We may note that the term *bhakta*, literally divided, is used in the *Ṛg Veda* in the sense of meal,[72] a sense which it retains in many Indo-Aryan languages.[73] When the use of the Aryan language spread over eastern Uttar Pradesh and Bihar the term came to acquire a modified connotation in the context of the food habits of this region. It became a synonym of boiled rice in the north-eastern zone. On account of this in the Pāli texts *bhatta* means

both meal as well as boiled rice,[74] and in modern languages whatever is given for maintenance is called *bhattā*.

A verbal formation from the root *bhāj*, to allot or to apportion, is used in the *Ṛg Veda* in connection with the distribution made by Agni in the *vidatha*.[75] In post-Vedic times the *Vinaya Piṭaka* and other Pāli texts mention a regular apportioner or distributor (*bhājaka*) of cloth, food, fruits, etc.[76] Collected by Buddhist monks and brought to a central pool, these were distributed among the members of the *saṃgha* under the supervision of the head monk. This was apparently a survival of the tribal practice, which served as a model for the organization of the *saṃgha*,[77] with the vital difference that the monks neither belonged to the same kin nor took part in actual production. The term *bhājana* was used in ancient texts in the sense of eating as well as dividing; the first appears with an accent on *ā* (*bhājana*),[78] and the second without it. Since cereals, food, etc., had to be distributed equally in terms of quantity, some kind of pot had to be used for the purpose. Therefore the pot came to be known as *bhājana*.[79] Although the term occurs in post-Vedic texts it may be of an earlier origin. The earliest pots were made of earthen clay, for we hear of *mattika-bhājana* in Pāli. Eventually the term *bhājana* came to be replaced by *vāsana* in the sense of pot.[80] Lexicographers also use *bhāj* in the sense of threshing-floor, which was used for the purpose of dividing grain.[81] The practice may have prevailed in Vedic times; apparently all Vedic terms which were used for different communal practices do not find a place in Vedic texts.

It is significant that the share of food given to kinsmen and other invitees at the time of a wedding is called *bhājī* in Panjabi. It is derived from *bhājya*[82] and is used in the sense of rice-gruel in Pāṇini, iv.1.42,[83] and the person sharing (presumably meals) with others is called *bhājayu* in the *Ṛg Veda*.[84] *Bhājī* is not only an omnibus word used for various types of food in Panjabi, but also stands for distribution of food gifts received from the cognates or various types of relations among the agnates.

As a form of social ritual-cum-practice, and a costly one at that, the practice of sharing ceremonial meals with kinsmen exists even now. At the time of marriage and religious functions in Bihar, Uttar Pradesh, Haryana, Rajasthan, etc., we notice the practice of sending a portion of food to all kinsmen. When a goat is sacrificed by one family a portion of raw meat is given to each one of the families who are its near kinsmen. The practice is also followed in respect of the presents received from relatives from outside the village. In this particular case the aim seems to be to cement mutual relations between two separate kinship groups by means of an exchange

of gifts. What is received from the cognates is distributed among the agnates. Sometimes if the gift received is not adequate, the receiver, who feels more concerned about the prestige of his cognates as well as his own, supplements the gift from his own pocket and then distributes it among his agnates. The distribution of food made in this manner is called *vāyan*, *bāyan* or *bainā* in several Indo-Aryan dialects in Bihar and Uttar Pradesh. It clearly shows that at one stage all the other kinsmen were entitled to a share in the food collected, produced, prepared or received by one kinsman. Linguistically the term *bāyan* is most probably derived from *bhājana*. Its Prakrit derivative *bhāyana* is traceable,[85] and from *bhāyana*, *bāyan* can be easily derived.

Another term used for distributing food as well as for food is derived from the root *pariviṣ*.[86] The noun *pariveṣa* means serving of meal in the *Atharva Veda*,[87] and a server of food is called *pariveṣṭṛ* in the same text.[88] The term *periveṣaka*[89] or distributor of food appears in the Pāli texts. In Haryana, Rajasthan and Uttar Pradesh members of the clan who do not attend ceremonial feasts held by their clansmen are entitled to *parosā*, which means distributed food. Clearly the term is a remnant of the old Vedic Sanskrit and Pāli terms.

We can appreciate the significance of the use of the terms discussed above if we bear in mind the tribal analogy. The chief reason why the terms for meal/food had to be the same as those for share or distribution lay in the fact that whatever was obtained by the Vedic communities through collection, production or presentation at an early stage was distributed among its members. It appears that the custom of distributing meals among members of the clan or community was a legacy inherited from the Indo-European phase. This can be inferred from the use of the term *géras* in Greek.[90] It means share. In ancient Greece portions of meat were divided equally and distributed by lots. But the chine, which was the choicest portion, was reserved as a *géras* for the chief who presided at the common meal.[91] It is striking that a similar term, *grāsa*, exists in Sanskrit. It means mouthful, and is derived from the root *gras*, to eat or swallow.[92] The Greek *géras* and the Sanskrit root *gras* possibly point to a time when the Indo-European tribes were in the food-gathering stage and when their members were given shares in the common meal.

We have no clear idea about the role of the kinship groups in cattle rearing and cattle distribution. In other words we do not have much knowledge about relations of production. Theoretical discussions about the mode and relations of production in tribal societies may be of some help, but scholars working on this problem

differ sharply, and we have to be careful in using their findings. Although the theory of the evolution of human society is accepted by most social anthropologists, those who subscribe to the Marxist approach are divided on the nature of the mode and relations of production in primitive societies. According to one view kinship plays a dominant role in social life in which it functions as an element of relations of production, and therefore as an element of infrastructure.[93] According to another, needs of procuring livelihood compel people of different ethnic stocks to come together and form procuring or producing units, as happens in war, hunting and various food gathering activities.[94] It is not our object to test the relative validity of either theory through field work. But others have done sufficient field investigation to substantially modify the view of Claude Lévi Strauss that in primitive societies the rules of kinship and marriage 'have an operational value equal to that of economic phenomena in our own society'.[95] In our opinion at one of the earliest stages of human development kinship may express relations of production, but the mode of production, which covers not only resources such as cattle, pastures and land, and various primitive tools for hunting, fishing, fighting, cattle rearing, etc., may not be identical with the organization of kinship. Recent investigations have shown that the institution of 'band' organization preceded that of the kinship or tribal formation.[96] A band did not always consist of the members of the same kin, but of unattached people who found it necessary to combine for achieving success in war or hunting. It is likely that in course of time members of the band, though belonging to different ethnic units, found it convenient to enter into relations of kinship, with the result that processes of procuring subsistence were facilitated through permanent family units, and in the process new kinship units of a different character were formed.

We have some indication of the existence of the 'band' system in the *Ṛg Veda*, although it would be wrong to think that it was as strong as the tribal system. The terms *vra*, *vrāta*, *vrāja*, *śardha* and *grāma* seem to have been used in this sense in the *Ṛg Veda*. These terms seem to be connected with two important sources of the livelihood of the Ṛg Vedic people, namely fighting, which meant 'booty production', and cattle rearing which supplied them with beef and milk. Again, the two sources were intimately connected with one another, for wars were primarily fought for the sake of cattle. Thus *vra*, according to one view, means 'troop' in the *Ṛg Veda* and *Atharva Veda*.[97] It is obvious that such a host was formed for fighting for livelihood, and once it assumed a permanent character it probably came to be regarded as a kinship group, as can be inferred from a meaning assigned to the term *vra*.[98] *Vrāta* seems

to have been derived from *vrata*, which though literally 'vow' or a way of life, was applied in the *Ṛg Veda* to those who lived on milk.[99] In the context of the *Ṛg Veda*, *vrata* also means custom, conduct, usage or manner.[100] But what this custom was is nowhere specified; if it meant living on milk it would have something to do with cattle herding. At any rate the term *vrāta* was derived from *vrata*, and its use in the *Ṛg Veda* has been understood in the sense of a multitude, flock, assemblage, troop, swarm, group, host, association and guild.[101] It is apparent that these 'bands', indicated by the term *vrāta*, were formed for activities connected with fighting or cattle rearing. In course of time these bands may have been transformed into wide tribal units known as the five races of men or *pañcavrātas*.[102]

The case of *vrāja* is slightly different. It is derived from *vraja*, which primarily means in the *Ṛg Veda* the 'feeding ground' to which the milk-giving animals go out in the morning.[103] Thus it might mean 'pen' or pasture.[104] Its secondary meaning is given as 'herd'.[105] The term *vrāja* apparently is derived from *vrajà*, and the *vrāja-pati* in the *Ṛg Veda* is taken in the sense of a chieftain.[106] *Vrāja*, in our opinion, possibly indicated a company of herdsmen who reared cattle and protected kine against tribal attacks. There is nothing to show that the *vrāja* developed into a kinship group, although such a possibility cannot be ruled out.

The term *śardha* as noun is taken to mean a troop, host, multitude;[107] its fighting character therefore is evident. Since in the *Ṛg Veda* the term is used to indicate the host of the Maruts,[108] it seems to have acquired a kin-based connotation. It is significant that what began as a fighting band seems to have grown into a tribal unit.

Finally we would like to examine the signification of the word *grāma*. Although generally the term is used in the sense of village, in the first instance it seemed to have meant a body of men. *Grāma* in one context of the *Ṛg Veda* is identical with *jana* or tribe. The 'folk' (*jana*) of the Bharatas[109] is called 'the horde seeking cows' (*gavyan grāmaḥ*).[110] In a later text, the *Śatapatha Brāhmaṇa*, Śaryāta Mānava is said to have roamed about with his *grāma* or people[111] (clansmen). The fact that the *grāma* was engaged in looking for kine might suggest a combination of people, which later developed some kind of kin-based identity. It is apparent that when these people took to agriculture and began to lead a sedentary life, *grāma* came to be understood in the sense of village. The later meaning was however not absent in the age of the *Ṛg Veda*, and the *grāma* was distinguished from *araṇya* or forest at several places.[112]

We have cited a few examples to demonstrate that needs of procuring subsistence could bring together people from various stocks, and eventually combinations of such people, either engaged

in constant war, or hunting or cattle rearing, could result in kin-based collectives. Once such collectives came to assume a lasting character, they could play an important part in economic activities, including the earning of subsistence and distribution of resources.

Although some references from the *Ṛg Veda* may indicate survivals of 'band' relationships, by and large the tribal element was strong in early Vedic society. According to anthropologists, in tribal societies those who collect or produce food are almost precisely the people who consume it. The production unit is the consumption unit, free from the intervention of intermediaries. Sometimes such societies are called lineage-based or segmentary. Kinship being the main unifying bond, the tribe is considered to be the largest unit of such a kind. It is split up into lineages, and lineages into segments. That Ṛg Vedic society was tribal is evident from the frequent occurrence of various terms which stand for kin-based units. These are *jana*, *viś*, *gaṇa*, *grāma*, *gṛha*, *kula*, *vrāta*, *śardha*, etc.[113] Taking the *Ṛg Veda* as a whole *jana* occurs 275 times, *viś* 171 times, and *grāma* 13 times.[114] We hear of Bharata *jana* and Yadu *jana* and also of *Tṛtṣunām viś*. Zimmer suggested that the *jana* was divided into *viśes*, the *viś* into *gramās*, and the *grāma* into *kulas*.[115] Probably his first statement is right, but alternative hypotheses regarding the other two sub-divisions may be suggested. In our opinion the term *jana*, associated with the five tribes such as the Anu, Yadus, Turvaśus, Dṛhyus and Purus[116] may be compared to the tribe and may be regarded as the largest unit based on kinship. When such a unit settled down in a territory it came to be known as *janapada*, the largest territorial unit in post-Vedic times. In Vedic times those who did not belong to the *jana* were called *janya*.[117] Although some references suggest that *jana* was divided into *viśes*[118] in several other references the *viś* may correspond to the tribe. *Viś* also means settlement; *veś* means settler, and *veśman*, house or abode.[119] We may also take note of certain smaller units based on kinship. In our opinion *gaṇa*, which is mentioned 46 times in the *Ṛg Veda*, may have been such a unit;[120] it may be compared to lineage. *Grāma* or herd of people,[121] was certainly a unit smaller than the *gaṇa*, and it is not clear whether it was kin-based. Once its members settled down at a place it came to be understood in the sense of village. The *grāma* was divided into *gṛhas*. *Gṛha* was the lowest unit, and it indicates a large family containing members of four generations; sometimes it is considered to be identical with the *vidatha*. *Kula* does not carry the sense of family. The term *kula* occurs once as a part of *kulapā* in the *Ṛg Veda*, which has several references to *gṛha*.

The size and shape of these kinship units were bound to undergo changes on account of war, secession, migration and above all due

to changes in labour processes with which they were associated at different points of time. But the difficult exercise of illustrating this process has not been undertaken in this essay. Although *gṛha* was an established production unit in Ṛg Vedic times, it cannot be said to be a predominant unit in comparison with *jana* and *viś*.[122] This was because the Ṛg Vedic people were a migratory people who moved from place to place with their herds of cattle. The cattle economy made them less sedentary, for they had to be constantly on the move in search of pastures. The migratory nature of the Vedic tribes is indicated by the use of the term *viś* in the sense of entering or settling in the *Ṛg Veda*.[123] The same sense or that of settling near or re-entering and coming back is conveyed when several prefixes are added to the term *viś* (tribe) to form verbs. These are *ā-viś*, *upa-viś*, *ni-viś*, *punar-viś*, *pra-viś*, *bhuyas-viś*, etc.[124] Such verbs as *punar-viś* and *bhuyas-viś* may refer to the habits of cattle-herding tribes (*viś*) which migrate to fresh pastures with their cattle in lean seasons and come back to their original settlements when fodder becomes available there. In any case migratory habits made settled life difficult, which was rendered further uncertain because of the slow advance of agriculture. Products of such labour processes as potmaking, woodworking, smithy and leatherworking were certainly available. But there is nothing to show that these were meant either for sale or for collection in the form of taxes. In all probability craftsmen were integral parts of the kinbased society, which accounted for the high status of the *rathakāra* (chariot-maker) in later Vedic and even post-Vedic society,[125] for he was treated as a full-fledged member of the Aryan community and as such enjoyed the right to read the *Vedas* and wear the sacred thread. At any rate hardly any surplus was available for supporting such persons as they neither gathered food nor produced it.

It is held by the authors of the *Vedic Index* that the caste system was already well on its way towards general acceptance in the age of the *Ṛg Veda*.[126] But if the varṇa/caste system is understood in the sense of a social mechanism created in response to a mode of production in which the upper classes in the form of priests and noble-warriors act as managers of production and collectors of the surplus produce and the lower classes such as peasants, artisans and agricultural labourers, free and unfree, carry on the primary work of production, such a picture cannot be deduced from the relevant references in the *Ṛg Veda*.

Although the brāhmaṇa is mentioned 14 times in the *Ṛg Veda*, not all references occur in the Family Books,[127] and not at all places is he regarded as a priest.[128] This is not to deny the existence of an embryonic group of priests in the *Ṛg Veda*; Vasiṣṭha and

Viśvāmitra are the typical examples of priestly functionaries. Similarly some priests were handsomely provided with cattle and women slaves by their patrons but neither with land nor pasture grounds which were presumably held in common.

Again, the term kṣatriya is mentioned 9 times in the *Ṛg Veda*, but a majority of the occurrences are outside the Family Books.[129] However we do come across warrior-chiefs leading their clans or tribes, and they are also called *rājan*. But they did not have any regular source of income in the form of taxes. In the absence of regular sources of taxes for maintaining an army they had to depend on the tribal militia, and consequently what they received in the form of spoils had to be distributed among the tribesmen, presumably in equal shares. It is most likely that the chief was given a special share, as was the practice in Homeric Greece and is also found in primitive societies, but this share depended on the consent and goodwill of his clansmen. It may have been given to him in recognition of his valour and his qualities of head and heart. Eventually this gave rise, in post-Vedic times, to the principle that the king was entitled to taxes in lieu of the protection he gave to the people. The practice that the best horse or the best elephant was given to the king was also a tribal remnant according to which the community gave the best to the tribal chief.

Although we have indications of redistribution in several assemblies and although even the term *dāna* means distribution in several contexts,[130] there are reasons to believe that shares tended to be unequal. As a result of appropriating more than what was due to an ordinary clansman the tribal chiefs of various categories developed in prestige and importance. Since the big tribal chiefs called *rājā* rewarded their companions handsomely they also became rich. We hear of rich people, who possessed chariots and cattle, attending the *vidatha*. Possibly they were close companions of the tribal chief, different from his ordinary clansmen who constituted the rank and file of the tribal army. The *Ṛg Veda* has a large number of terms for property which was won as a stake in war. At least that is the meaning of the term *dhana* and *paṇa* used in that text.[131] Besides we encounter a few other terms such as *rayi*, *reknas*, *draviṇas*, etc.[132] But what did wealth consist of? The common use of the adjective *gomat* applied to rich people shows that it consisted mainly of cattle and not of land. In a predominently pastoral society this was quite a natural phenomenon. Large conventional numbers of cattle made over to priests demonstrate that the donors (tribal chiefs called *rājās*) and the donees (priests) possessed them in considerable numbers. This may have led to the leasing of these cattle to the families of ordinary clansmen on a sharing basis and may have

created relations of dependence between herdsmen and cattle-owners. But of this we have no direct evidence in the *Ṛg Veda*. The *gṛha* comprised not only the habitation but also cattle and sheep. In any case it is clear that the *gṛhapati* did not possess resources which were beyond the means of his family labour.

As we have noted earlier, the *Ṛg Veda* does not have any word for wages or wage-earners. Nor does it have any word for beggars. The institution of wage-earning arises at that stage in society when a family acquires by force or other means, fields and pastures which it cannot exploit with its own labour resources. Similarly wage-earners and beggars appear when people are impoverished and dispossessed on account of class differentiation, but such a situation is not to be found in the age of the *Ṛg Veda*.

On the other hand if we examine the *dānastuti* given in a late *maṇḍala*, it would appear that the Ṛg Vedic society represented in that stratum was not egalitarian, for there is clear evidence of the lion's share of spoils going to the tribal chiefs and their priests. It is likely that they managed to corner these shares first on account of their special qualities and secondly on account of their claim to be the representatives of the tribal communities. But all the same the absence of surplus in a pastoral, tribal society did not create conditions for class differentiation. There could be differentiation of rank, as can be inferred from the titles of tribal chiefs such as *janaśya gopa*, *viśpati*, *viśāmpati*, *gaṇasya rājā*, *gaṇānāṃ gaṇapati*, *grāmaṇī* and probably *gṛhapati*. Certain *vipras* were considered worthy of attending the *sabhā* (*sabheya*), but the phenomenon of the upper classes living on the labour of tribesmen was just beginning to emerge; it did not prevail to any considerable degree. The tribesmen represented by the *viś* consisted of herders and fighters, who apparently provided resources for the support of the emerging sections of priests and warrior-nobles, as indicated by the later portions of the *Ṛg Veda*. The ritualistic and ideological ratification came at a much later stage in the *puruṣasūkta* in the tenth *maṇḍala*, in which the śūdra is mentioned for the first and last time in the *Ṛg Veda*. Otherwise the importance of tribesmen represented by the *jana* and the *viś* and that of pastoral life represented by cattle looms large over the Family Books of the *Ṛg Veda* as well as over some of its later portions.

Notes

1 A. A. Macdonell and A. B. Keith, *Vedic Index of Names and Subjects*, 2 Vols, 3rd rpt, Delhi, 1967 (abbrev. as *VI*), i, 310.

2 *VI*, i, 23-4.
3 For references see R. S. Sharma, *Śūdras in Ancient India*, Delhi, 1958, p. 9, fn. 3. The term *dāsa-ahatyā* does not occur in the *RV*.
4 Emile Benveniste, *Indo-European Language and Society*, London, 1973, pp. 240, 260-1.
5 Ibid., p. 261.
6 *VI*, ii, 306.
7 Benveniste, op. cit., p. 301.
8 *Śūdras*, p. 15.
9 R. S. Sharma, 'Forms of Property in the Early Portions of the *Ṛg Veda*', *Essays in Honour of Professor S. C. Sarkar*, New Delhi, 1976, p. 40.
10 *RV*, X.34.12.
11 *RV*, I.164.41.
12 The term however does not appear in the *Ṛg Veda*; literally it means cowhaired and occurs in post-Vedic texts; s.v. *gavala*, Monier-Williams, *A Sanskrit-English Dictionary* (abbrev. as *SED*).
13 For details see *Essays in Honour of Professor S. C. Sarkar*, p. 41.
14 s.v. *sītā*, *VI*, ii, 451, fn. 1.
15 Emmanuel Terray, *Marxism and 'Primitive Societies'*, London, 1972, contains a good discussion of these studies, especially that of Claude Meillassoux, *L'Anthropologie Économique des Gowco de Côte d'Ivoire*, Paris, 1964, in his second study 'Historical Materialism and Segmentary Lineage-Based Societies', in the same book. Also see, Marcel Mauss, *The Gift*, Chapter I; however the discussion of early Indian evidence in Chapter III.2 of his book is not satisfactory. For distribution and gift-exchange in the early Indian context see Romila Thapar, '*Dāna* and *Dakṣina* as Forms of Exchange', *Indica*, xiii, 1976, nos. 1 and 2.
16 The term 'redistribution' was first used by Karl Polanyi, 'The Economy as Instituted Process', in Karl Polanyi, *et al.*, eds., *Trade and Market in the Early Empires*, Glencoe, Ill., 1957, p. 250 quoted in Terray, op. cit., p. 137 and p. 185, fn. 17.
17 Mauss, *The Gift*, Chapter II.
18 Most *dānastutis* occur in Books I, VIII and X, especially in good numbers in Book VIII, although some of them are also found in the Family Books.
19 I. 13-14.
20 In certain parts of the Hindi-speaking belt of north India this is called *barahgāma* or *chaurāsī*.
21 *Aspects of Political Ideas and Institutions in Ancient India*, Delhi, 1968 (abbrev. as *APIIAI*), pp. 82-3, 113-14.
22 III.30.5-6 (based on Whitney's translation).
23 *APIIAI*, pp. 78-82.
24 *RV*, VII.40.1.
25 *RV*, II.1.4.
26 s.v. *dāna* ('distribution'), *VI*, i, 350-1.
27 Counted on the basis of *A Vedic Word-Concordance*, i, pt. V, pp. 2316-17.
28 Ibid., pp. 2328-30.
29 Comm. on *RV*, IX.61.11 in which the term *vanāmahe* is eouated with *sambhajāmahe* by Sāyaṇa.

30 s.v. *van*, Monier-Williams, *Sanskrit-English Dictionary*. The traditional commentarial interpretation of the root *van* is *sambhajana-yācana-dāna-hiṃsādan vṛttiḥ*.
31 s.v. *vaniṣṭha* and *vanīyas*, Monier-Williams, op. cit.
32 *RV*, I.93.9.
33 *RV*, III.19.1.
34 *A Vedic Word-Concordance*, i, pt. V, pp. 2738-40.
35 R. L. Turner, *A Comparative Dictionary of the Indo-Aryan Languages*. no 11266.
36 Comm. on *RV*, I.100.18; IX.61.11.
37 s.v. *san*, Monier-Williams, op. cit.
38 *RV*, X.106.8 quoted s.v. *saneru*, ibid.
39 *RV*, II.23.13; also see I.100.9.
40 *RV*, I.123.2.
41 *RV*, IV.20.3; VI.26.8.
42 *RV*, I.95.10.
43 *RV*, III.39.2.
44 *A Vedic Word-Concordance*, i, pt. V, pp. 3248-9.
45 *RV*, VI.60.13. The term *aśanāma vājam* is found in *RV*, X.62.11.
46 *Vāja* is also interpreted by Sāyaṇa as *bala* in many references.
47 *RV*, II.31.3.
48 *vājasyānnasya sātaye saṃbhajanārtham*.
49 *RV*, II.31.3; V.35.6; VI.53.1, 4; also see I.130.1.
50 *RV*, III.51.2.
51 *RV*, V.20.1, but also see I.78.3.
52 *RV*, III.12.4, but also see I.28.7.
53 *RV*, III.30.22, 34.5, 11, 36.11.
54 *RV*, IX.97.10. Griffith renders *vṛjana* as 'mighty power', which does not make any sense; most probably it stands for pasture ground.
55 *RV*, I.73.5; VI.60.13; IX.61.11.
56 *RV*, I.121.15.
57 *yamindra dadhiṣe tvamaśvaṃ gāṃ bhāgamavyayaṃ, yajamāne sunvati dakṣiṇāvati tasmintaṃ dhehi mā paṇau. RV*, VIII.97.2. The rendering given in the text is based on Sāyaṇa.
58 *enā viśvānyarya ā dyumanāni mānuṣāṇām, siṣāsanto vanāmahe. RV*, IX.61.11. *siṣāsantaḥ* is interpreted by Sāyaṇa as *saṃbhaktum icchataṃśca* and *vanāmahe* as *saṃbhajāmahe; dyumanāni* is interpreted by him as *annāni*.
59 *prathamabhājaṃ yaśasaṃ vayodhāṃ supāṇiṃ devaṃ subhagastiṃ ṛbhvaṃ, hotā yakṣat yajataṃ pastyānāmagṇi tvaṣṭāraṃ suhavaṃ vibhāvā. RV*, VI.49.9.
60 *RV*, X.54.11.
61 Ibid.
62 *śrāyanta iva sūryaṃ viśvedindrasya bhakṣata, vasūni jāte janamāne ojasā prati bhāgaṃ na dīdhima. RV*, VIII.99.2 read with the commentary of Mahīdhara. Ralph T. H. Griffith, tr., *The Hymns of the Rigveda*, Vol. II, Benares, 1897, p. 249, fn. 3.
63 Ibid., in this connection Yāska (Nirukta, VI. 8) states: *sarvāṇindrasya dhanāni vibhakṣyamāṇāḥ. sa yathā dhānani bibhajati jāte ca janiṣyamāṇe ca taṃ vayaṃ bhāgamanudhyāyama*. Quoted in Sāyaṇa's commentary on *RV*, VIII.99.3.

In *RV*, VIII.97.2 also we notice emphasis on a share for everybody, including those yet to be born.

64 *sa idbhojo yo gṛhave dadātyannakāmāya caı ate kṛśāya.*, *RV*, X.117.3.

65 *vi cakrame pṛthivīmeṣa etāṃ kṣetrāya viṣṇurmanuṣe daśasyan....RV*, VII.100.4.

66 *sanatkṣetraṃ sakhıbhiḥ śvitnyebhıḥ sanatsūryaṃ sanadapaḥ suvajraḥ.*, *RV*, I.100.18. Commenting on *sanat* Sāyaṇa says: *van ṣaṇa saṃbhaktau.* This would mean that the cultivated land was divided. The term *sanat* is made identical by him with *samabhākṣīta, abhajata* and *samabhajata,* all suggesting distribution.

67 *RV*, I.73.5.

68 *RV*, I.83.4.

69 *RV*, II.1.4.

70 s.v. *aṃśa, SED.* The problem may be of interest to a linguist.

71 I owe this suggestion to Pıofessor R. C. Pandeya.

72 s.v. *bhakta, SED.*

73 R. L. Turner, *A Comparative Dictionary of the Indo-Aryan Languages*, Oxford, 1966 (abbrev. as *CDIAL*), no. 9331.

74 s.v. *bhatta*, T. W. Rhys Davids and William Stede, *Pali-English Dictionary* (abbrev. as *PED*).

75 *RV*, II.1.4.

76 s.v. *bhājaka, PED.*

77 *APIIAI*, p. 122.

78 s.v. *bhājana, SED.*

79 *CDIAL*, no. 9436; Turner holds that *bhājana* occurs in the sense of eating or enjoying in the *Śatapatha Br.* and in that of pot in the *Mbh.*

80 I owe this suggestion to Professor R. C. Pandeya.

81 The term survives in some Indo-Aryan dialects; see *CDIAL*, no. 9438.

82 *CDIAL*, no. 9438.

83 s.v. *bhājī, SED.*

84 s.v. *bhajāyu*, ibid.

85 *CDIAL*, no. 9436.

86 s.v. *pariviṣa, SED.*

87 Ibid.

88 Ibid.

89 s.v. *pariveṣaka, PED.*

90 George Thomson, *Aeschylus and Athens*, London, 1973, pp. 38, 41, 49, 282.

91 Ibid., p. 39.

92 In its verbal form *gras* occurs in *RV*, V.41.17; s.v. *gras, SED.*

93 Maurice Godelier, *Perspective in Marxist Anthropology*, Cambridge, 1977, p. 67.

94 Emmanuel Terray, op. cit., pp. 120, 134-5, 140.

95 Ibid., p. 140.

96 Maurice Godelier, op. cit.

97 s.v. *vra, VI*, ii, 339.

98 Ibid.

99 s.v. *vrata, VI*, ii, 341.

100 s.v. *vrata*, Monier-Williams, op. cit.

101 s.v. *vrāta*, ibid.

102 Ibid.

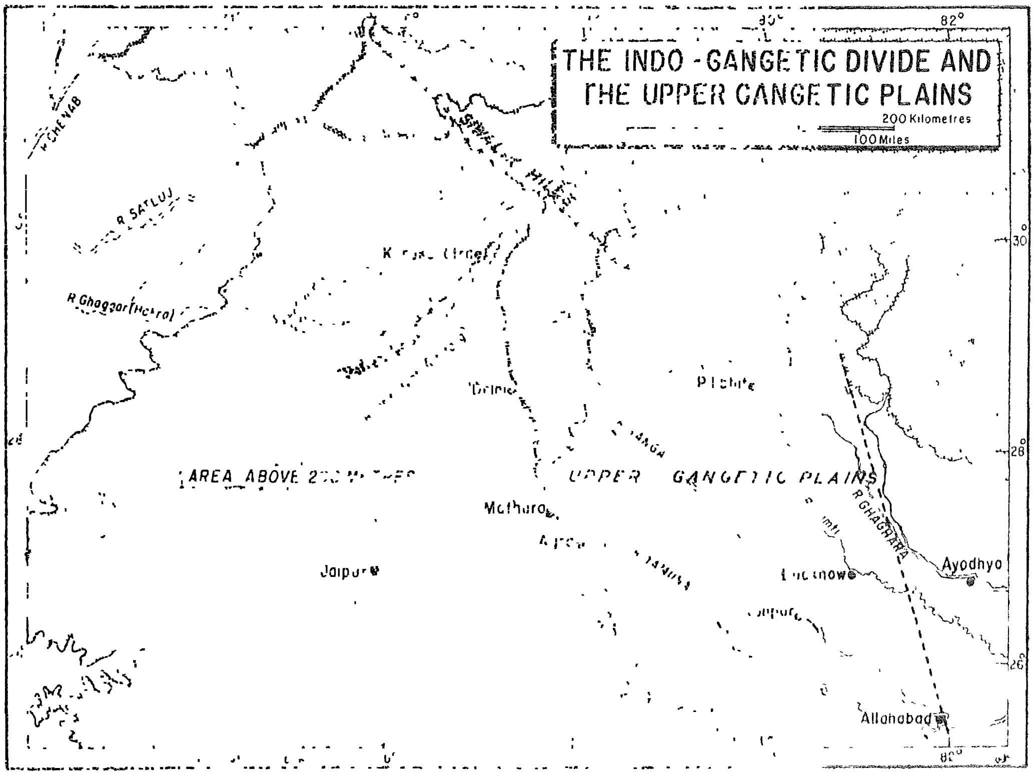
103 s.v. *vraja*, *VI*, ii, 340.
104 Ibid.
105 Ibid.
106 *RV*, X.179.2 quoted in s.v. *vrāja-pati*, *VI*, ii, 341.
107 s.v. *śardhas*, Monier-Williams op. cit.
108 s v. *śardha*, ibid.
109 *RV*, III.53.12 quoted in s.v. *grāma*, *VI*, i, 245.
110 *yadaṅga tva bharatāh santoyur gavyan grāma iṣita indrajūtaḥ*. *RV*, III.33.11.
111 s.v. *grāma*, *VI*, i, 245.
112 Ibid., p. 244.
113 Some of these terms may have started in the sense of band and later acquired kin-based connotations.
114 For further discussion see *APIIAI*, pp. 264-7.
115 *VI*, i, 245; ii, 306, fn. 9; 307, fn. 11.
116 *VI*, i, 467.
117 *APIIAI*, p. 150
118 *VI*, ii, 306.
119 s.v. *viś*, *veś* and *veśman*, *SED*.
120 *APIIAI*, pp. 109-11.
121 *VI*, i, 245
122 The term *gṛha* (in its various forms) in the sense of house/family occurs 92 times in the *RV*, of which only 34 occurrences are to be found in the Family Books. Thus in the earliest Ṛg Vedic society, family was not a dominant unit, nor can this be said of *grāma*. The *viś* seems to have been far more important than both.
123 s.v. *viś*, *SED*.
124 For all these terms see *SED*.
125 *APIIAI*, p.139.
126 *VI*, ii, 250.
127 *VI*, ii, 80-1.
128 *VI*, ii, 91, 248.
129 *VI*, ii, 248.
130 *VI*, i, 350-1.
131 *Essays in Honour of Professor S. C. Sarkar*, p. 42.
132 Ibid.

CHAPTER FOUR

The Later Vedic Phase and the Painted Grey Ware Culture

The later Vedic texts comprising the collections of the Yajus and Atharvan, the Brāhmaṇas, and the Upaniṣads were composed in the land of the Kurus and Pañcālas.[1] This forms the major portion of western Uttar Pradesh, almost the whole of Haryana, and the neighbouring parts of the Panjab and Rajasthan. In geographical terms this area covers the Indo-Gangetic divide and the upper Gangetic plains. The divide includes the land between the Indus system and the Gangetic system, and covers a large portion of modern Panjab and Rajasthan and the whole of Haryana and the Delhi area. The Indo-Gangetic divide, if the northernmost portion of the Bari doab is included in it, is about 35,000 sq. miles.[2] In this area except for the submontane regions the rainfall is very scanty, ranging between 10 to 15 inches.[3] Naturally the vegetational cover is thin and clearance less difficult. Because of this many Harappan and PGW settlements were founded in this area. The soil of the plains of Panjab and Haryana is generally alkaline,[4] which helps to preserve organic and inorganic material including iron artifacts. However saline and alkaline soils are also found in the dry tracts of Rajasthan, Uttar Pradesh and Bihar, but obviously such tracts predominate in the former two states.

From the climatic point of view, along with the eastern portions of Rajasthan this whole area constitutes one unit having the same kinds of plants and trees. We may list a few trees which are mentioned in the Vedic texts and are at present found in the region. Of such trees *khadira*[5] or *khair* (also called *katthā*) is commonly found in the upper Gangetic plains. The tree is used for carts, tool handles, etc., and more importantly for tan-stuffs.[6] *Babul* is perhaps more common than *khair* in the north-western lowlands,[7] but the term *kikkara*[8] or *kīkar* used in the languages of northern India is not found in later Vedic texts. Along with the *khair*, the *sissoo* is also found in the drier and other areas. The tree is mentioned as *śiṃśapā* in the *Atharva Veda*,[9] and its remains are found in Rajasthan in Harappan


THE INDO - GANGETIC DIVIDE AND
THE UPPER GANGETIC PLAINS
200 Kilometres
100 Miles
82°
30°
28°
26°
R CHENAB
R SATLUJ
R Ghaggar (Hakra)
AREA ABOVE
UPPER GANGETIC PLAINS
R GHAGHARA
Mathura
Jaipur
Ayodhya
Allahabad

times.[10] *Udumbara*[11] (Hindi *gular*) is found in the upper Gangetic plains and also in other parts of the country. *Karīra*, a leafless shrub, is found along the banks of the Yamuna in the Mathura area.[12] *Pīlu*,[13] a tree on the fruits of which doves feed, is found in the same region. The *jujube* (Hindi *ber*) trees such as *karkandhu*,[14] *kola*,[15] *kuvala*,[16] and *badara*[17] are found in a fair quantity in the whole area. *Pītūdāru*[18] or *putudru*,[19] a name for *devdār*, is found in the foothills of the Himalayas. *Plakṣa*[20] (Hindi *pākar*), a tree with wavy leaves and small white fruits, is found in this region as well as in eastern India. *Varaṇa*[21] (Hindi *varanā*) is found in Haryana in good numbers. *Vikankata*,[22] identifiable with *kaṭāī* and *śāmī*[23] identifiable with *choṅkar*, are found in the region of our study. So far the plant-remains of the levels belonging to the first half of the first millennium B.C. have neither been impressive nor subjected to a careful and thorough examination. Hence an integrated study of the later Vedic plants on the basis of archaeology and geographical provenance cannot be pursued far. But there is considerable evidence to show that the flora of the later Vedic texts is identical with that of the doab and the adjacent areas.

Painted Grey Ware sherds have been found in the same areas as are represented by the later Vedic texts. Although the PGW wares have been noticed in eastern UP and even in Bihar, their epicentre seems to be the upper Ganga and Sutlej basins. Nearly 700 PGW sites have been located in this region. They are in much larger numbers when compared with nearly 50 or so ochre coloured pottery sites, and there is no doubt that they indicate agrarian settlements on a large scale for the first time in this area. However there is nothing like an exclusive PGW culture because other wares such as black-and-red ware, black-slipped ware, red ware, and plain grey ware are also associated with them. Although very distinctive, the PGW sherds are not numerically predominant at any place. At Atranjikhera, where the PGW covers an area of about 650 sq. m, its incidence ranges between three and ten per cent of the total pottery complex.[24] Even where their number is fairly large, the PGW sherds may not exceed fifteen per cent of the total pottery recovered from the PGW layers. Thus the PGW horizon represents a composite culture, just as the culture revealed by the later Vedic texts represents an amalgam of Sanskritic and non-Sanskritic, Aryan and non-Aryan elements.

The dating of the PGW layers containing iron objects roughly coincides with that of the later Vedic texts. Although some enthusiasts would like to push back the date of both the PGW and iron levels on the basis of a single carbon-14 dating from Atranjikhera, the overall picture comprising the diffusion of the PGW with iron covers a

period of less than five centuries from *c.* 1000 B.C. to about 500 B.C. The carbon-14 date 1025 B.C. obtained from Atranjikhera in western UP does not fit in with at least four other carbon-14 dates from this and other sites. All these four dates indicate the beginnings of the PGW/Iron Phase. They are, for instance, 940 B.C. from Atranjikhera,[25] 800 B.C. from Jodhpura in Rajasthan,[26] 725 B.C. from Noh in the same state,[27] and 720 B.C. again from Jodhpura.[28] These dates suggest a pattern that does not allow us to postulate the advent of iron in northern India before 1000 B.C. even if we go by the calibration of these dates. The date of the appearance of PGW, however, may not be necessarily associated with that of the advent of iron, for at least at four excavated sites PGW has been found in association with pottery in the 'Harappan' tradition, and certainly without any association with iron. In the case of one such site, Bhagwanpura in Haryana, the thermolumiscent dates range from 1500 to 1000 B.C.[29] Iron has also been found in association with black-and-red pottery at several sites in northern India although the dates are not early in all cases.[30] For the end of the PGW phase carbon-14 dates veer round *c.* 500 B.C.-400 B.C.[31] although some dates come as late as 275 B.C.[32] In any case, the PGW phase marked by the use of iron in the upper Gangetic plains and the Indo-Gangetic divide can be reasonably dated to *c.* 1000-500 B.C.

Keith would like to place all the Brāhmaṇas between 800 and 600 B.C.,[33] but Louis Renou is possibly right in extending the period of the later Vedic texts including the Upaniṣads up to 500 B.C.[34] The dates of the Vedic texts were fixed by Sanskritists on the basis of linguistic considerations, the appearance of Vedic names in inscriptions of about the fourteenth century B.C. in Western Asia and on the basis of the appearance of the Indo-European speaking people in Western Asia and Europe.[35] The coincidence that the later Vedic texts seem to have been compiled in the age of the PGW can be rendered meaningful by a comparison of the material culture revealed from these two sources.

The PGW mud-brick walls found at Hastinapur[36] remind us of later Vedic references to bricks in connection with the construction of altars; seven brick names are found in the *Taittirīya Saṃhitā*, nine in the *Kāṭhaka Saṃhitā*, and eleven in the *Maitrāyaṇī Saṃhitā*.[37] In the *agnicayana*, the stacking of the bricks for the fire altars which is made obligatory in the *mahāvrata* and optional in other *soma* sacrifices, the building of the *uttaravedi* involves five courses of bricks, making 10,800 bricks in all, in prescribed patterns often in the form of a bird with outstretched wings.[38] But generally the PGW sites, except at Bhagwanpura and a few other places where the

fire burnt bricks have been reported but not accounted for,[39] do not yield fire-baked bricks; similarly the later Vedic texts do not know of these. Of course a battered facing of brick on the mud ramparts of Kauśāmbī has been discovered, but it cannot be pushed beyond 550 B.C.[40] In fact the discovery of a cast copper coin may bring its date down to around 300 B.C. Therefore the bricks mentioned in the Vedic texts were not generally baked in fire. A potter's kiln of the PGW level has been discovered in Atranjikhera.[41] Such a kiln is known by *āpāka* (Hindi *āvā*) in the Vedic texts, but no term for brick-kiln is found in Vedic sources. The old Vedic practice of using unbaked bricks for religious purposes continues in Maharashtra[42] and possibly in the other parts of the country. The total picture of PGW settlements does not warrant their characterization as urban, as has been done by Wheeler;[43] at best they can be called proto-urban towards the end of the PGW period. The later Vedic texts do not know of urban life. Kāmpīla,[44] the capital of Pañcāla, may have been an administrative settlement. The term *nagara* occurs in an *Āraṇyaka*[45] and *nagarin*[46] in two Brāhmaṇas which are not earlier than 600 B.C.

Technologically the major part of the PGW period is distinguished by the use of iron.[47] It seems that the earlier phase of the PGW period did not have iron, as can be inferred from excavations at Bhagwanpura in Haryana and a few other sites in the Panjab. However many sites in the Indo-Gangetic divide and the upper Gangetic plains reveal PGW in association with iron artifacts. These mainly comprise spearheads, arrowheads, hooks, etc. Consistent carbon-14 datings do not place them earlier than *c.* 850 B.C. Iron objects recovered from Atranjikhera implies advanced knowledge including the use of bellows. Two furnaces for iron smelting and forging of iron objects have been discovered at an excavated site in Suneri village in Jhunjhunu district in Rajasthan.[48] It is reported that the hearths are of the open type and provided with bellows.[49] All these discoveries are associated with the PGW culture, which is believed to be 3000 years old.[50] But the stratigraphical date of 1000 B.C. for iron smelting and 'bellows' may have to be modified later in the light of carbon-14 dating. *Bhastrā*, which became a common term for bellows in post-Vedic times, is interpreted as a leather container in the *Śatapatha Brāhmaṇa*,[51] but its occurrence may imply an acquaintance with the bellows towards the end of the Vedic period.

Several terms for iron are found in the late Vedic texts. The term *śyāma* occurs in the *Vājāsaneyi Saṃhitā*,[52] the youngest of the *Yajus* collection, which might belong to about 800 B.C., for it is later than the *Taittirīya Saṃhitā*.[53] The term *śyāmena* is found in the

Atharva Veda, IX.5.4. and *śyāma ayas* in XI.3.1. 7; but these books are part of the priestly literature rather than of 'popular poetry', and are possibly later in time.[54] Since in its present form the *Atharva Veda* is certainly the latest of the four *Saṃhitās*,[55] these references cannot be attributed to a period earlier than 800 B.C. The terms *kṛṣṇāyas, kārṣṇāyas* occur in the *Jaimini Upaniṣad Brāhmaṇa*, II.90, which is later than the *Śatapatha Brāhmaṇa* and *Aitareya Brāhmaṇa*[56] and may be placed after 600 B.C. Curiously enough, the Egyptian word for iron is black copper from heaven,[57] which is almost the same as *kṛṣṇāyas*. Similarly glass beads and bangles found in the PGW levels[58] have their counterparts in the term *kāca* in the Vedic texts.[59]

On the basis of the iron objects that have been discovered so far in the Panjab, Haryana, western UP and the adjoining areas of Rajasthan in the levels belonging to *c.* 1000-500 B.C. we cannot postulate their use in handicrafts and agriculture on any considerable scale. In this phase only arrowheads and spearheads supplemented by nails[60] have been encountered; axes, hoes and sickles are rare, and ploughshares are almost absent. A ploughshare has been reported from Jakhera, but it might belong to the end of the PGW phase, and so far its associate finds have not been dated. The PGW-iron period was therefore primarily an age of iron weapons and not of iron tools. Since the Upper Gangetic basin does not have any rich iron mines, and since the evidence for the use of bellows seems to be doubtful,[61] the number of artifacts was limited. Even by the middle of the first millennium B.C. iron could not be a metal of common use because of two major limitations. The rich sources of iron in south Bihar were unknown to the people of the upper Gangetic and Sutlej basins. People probably used the iron ores found in Mandi in Himachal Pradesh, Patiala in the Panjab, and the Kumaon hills in Uttar Pradesh. It is held that these deposits are not rich enough and are located in inaccessible areas.[62] From the technological point of view the period *c.* 1000–600 B.C. was one of primitive iron.[63] The wasteful rich metallic ferrous slags show that iron metallurgy was in an elementary stage.[64] During this period small objects of wrought iron with slag inclusions were made.[65] It seems that even weapons were limited in number and probably lay in the sole possession of chiefs and princes.

The PGW-iron phase deposits, which are three to four metres deep at several places, leave no doubt that these settlements lasted for at least three to four centuries. Their relative stableness and their richer context indicating an increase in population suggest that they were inhabited by agricultural communities. The late Vedic texts

yoked to the plough[66] which may indicate yoking of more than two oxen to break the hard soil. The importance of field-agriculture was realized, and the ploughshare made of *khadira* was asked in prayer to confer cows, goats, children and grain on the people.[67] It seems that the ploughshare made of *khadira* or *khair*, which is referred to as very hard and compared with bones in the *Śatapatha Brāhmaṇa*,[68] was used on a considerable scale. But in *late Vedic texts* the plough is described as *paviravant*[69] or *pavarivam*,[70] which is interpreted as having a metal share like that of a lance;[71] this was possibly an iron share. Similarly, in recitation an instrument called *kuśī*, an article made of metal or wood, was used for marking,[72] In later times the term came to mean an iron ploughshare and is still used in that sense in the dialects of western UP, the Panjab and Haryana. But so far only one iron ploughshare has been found in the late PGW levels. In the age of the *Ṛg Veda* ploughshares of *khadira* and *udumbara* were used. The practice continued up to later Vedic times, and the ritual is still observed in the Banaras area. According to this ritual, a small piece of land is furrowed with the wooden share attached to the plough before the start of ploughing.

A few implements found at Atranjikhera[73] have the appearance of reaping hooks, but no reference to iron sickles has been found in the Family Books of the *Ṛg Veda*. *Dātra* appears in its late portions,[74] and is used for both a reaper and a sickle meant for cutting. Its derivative *dā*, *dāu*, etc., means a large agricultural cutting tool in north-eastern India, but in Haryana and the neighbouring regions its derivative *darānti* means a sickle for reaping. *Sṛṇi* is another term for reaping sickle found in the late portions of the *Ṛg Veda*,[75] and also in the *Atharva Veda*,[76] but the term is not widely used. It is significant that the later Vedic texts specifically use the term *lavitra*[77] either for the reaping hook or for reaping the crops. But we have no exact idea of the material of which these sickles were made. In short, the PGW/later Vedic people practised field-agriculture, but iron does not seem to have played any effective role in it.

In the age of the *Ṛg Veda*, *yava* or barley was produced. Barley ripens quickly and does not require much rain. The sole dependence of people on it suggests that they lived from hand to mouth because of a lack of knowledge of the other crops. Besides barley, rice and wheat[78] have been found in the PGW levels at Atranjikhera. All these are attested by later Vedic texts which know of barley, rice (*vrīhi*), bean-pulse (*māṣa*), and sesamum (*tila*);[79] millet (*syāmāka*) are also mentioned.[80] In the Vedic texts another name for paddy crop is *ṣaṣṭika*, which ripened in sixty days.[81] An inferior type of rice, it survives now as *sāṭhī* in almost the whole of northern India.[82] The fact that this variety is used in Hindu rituals in preference to the

other varieties shows that it was the earliest type of cultivated rice. *Godhūma* or wheat found in the PGW levels appears in several later Vedic texts,[83] but so far bean, sesamum and millet have not been discovered in the PGW levels. However besides wheat, barley and rice, lentil, black gram (*urad*), green gram (*mung*) grasspea and linseed are reported to have been found in chalcolithic levels in Madhya Pradesh.[84] The cultivation of rice in western UP might be explained by the fact that in ancient times this area had a heavier rainfall and much waterlogging. The continued use of rice in Vedic rituals[85] is also explained by this fact; on the other hand it is significant that wheat has no place in these rituals.

Animal remains from Atranjikhera include bones of cattle and other animals bearing cutmarks[86] and leave no doubt that they were used for food. Animal bones from Hastinapur show that young cattle were used as food.[87] Sacrifices prescribed in the later Vedic texts indicate the killing of cattle and other animals on a large scale, and animal food was an important item in the life of the Vedic people. Sacrificial altars have not been discovered so far, although such a claim is made for Kauśāmbī in connection with the *puruṣa-medha*. In any case cattle killing suggests strong traces of pastoralism which was so dominant in early Vedic times.

Although the remains of the horse have been found at Hastinapur,[88] it is not clear whether this animal was used for food. So far the remains of the horse have not been recovered from any other PGW site. Horse-goods belonging to *c*. 900 B.C. have been reported from the Gandhara graves.[89] In any case the importance of the horse and chariot is attested by the *Ṛg Veda* and more so by subsequent Vedic texts which prescribe a place for the horse in the *aśvamedha*, *rājasūya*, *mahāvrata*, etc.

To the PGW levels belong a good number of pots. It is thought that they were used for eating food by members of the upper classes, but some of them may have been used for cooking; of course the point can be established only if marks of soot are noticed on them. Others may have been used in rituals which formed a striking feature of the later Vedic religion. It is not possible to produce corroborative evidence from the Vedic texts regarding the colour and fabric of these pots, but something can be said about their types. The two typical PGW pots are bowls and dishes, we do not come across *hāṇḍis*, which became widely prevalent as cooking pots in subsequent times. It is remarkable that the later Vedic terms *ambarīṣa*,[90] *ukha*,[91] *kandu*,[92] *sthālī*,[93] *bhrāṣṭra*,[94] which stand for frying pans, broadly resemble the dishes that have been discovered so far. These recall to our mind the pots in red ware found at the PGW levels. The *kumbha*[95] was meant for storing water and *kośa*[96] for

storing grain, these again may have been non-PGW pottery. *Kuṇḍa* seems to be the term used for bowl,[97] and the term *kuṇḍa-pāyin*,[98] drinker from the bowl, is used as a proper name. *Śarāva* is another name for bowl,[99] which was also used for measuring corn. According to the *Kātyāyana Śrautasūtra* (II.4.27-34) a small bowl or cup was indicated by the word *kapāla*, because of its resemblance to the skull;[100] it was used for keeping sacrificial offerings. V. S. Pathak notices Vedic ritualistic decorations called *añjī*, *svastika* and *tripura* on the PGW.

The terms for cooking pots in later Vedic texts suggest that frying was an important form of cooking, and this purpose was served by the dishes that have been discovered. Some inference regarding the use of the PGW and other dishes can be made from the size of the ovens that have been discovered. The Atranjikhera PGW level hearths are semi-oval in shape and 25 to 30 cms in height.[101] An oval-shaped hearth, partly underground, was found in the PGW level at Kaseri in the district of Meerut.[102] The hearths from Ahicchatra belonging to the earliest phase of the NBP period, into which the PGW merges itself at this place, are underground ovens.[103] In the case of both Kaseri and Ahicchatra we should find out whether the size of the PGW level pots matches with that of the PGW ovens.

The rows of hearths discovered at Atranjikhera in the PGW levels as well as the sets belonging to post-PGW levels at Ahicchatra show that these were meant for communal feeding or for cooking the food of large families. A hearth showing one mouth and three openings was found in Atranjikhera besides another hearth on a kitchen floor belonging to the period of the overlapping of the Painted Grey and NBP Wares.[104] Obviously these hearths were meant for feeding a large family. In the case of the hearth at Ahicchatra[105] as many as three cooking pots can be placed at a time on the multiple ovens. The multiple hearths with baked brick walls in the Purana Qila from the 'Maurya' levels[106] can take four pots at a time. A row of four hearths has been found at Ahar,[107] but these are rectangular and above the ground, and not oval and underground, as is the case with the Kaseri and Ahicchatra hearths as well as the 'Maurya' hearths from the Purana Qila. The term *bhraṣṭra* or *bhrāṣṭra* in the Vedic texts[108] throws some light on the communal character of the later Vedic hearths. This term is interpreted as frying pan,[109] but it might mean a large cooking fire, for almost in the whole of western UP, Haryana and the Panjab its derivative *bhaṭṭhī* stands for ovens meant for cooking food on the occasion of communal feasts, although *bhaṭṭhī* or *bhaṭṭhā* is also used for brick-kiln. My enquiries show that the traditional

bhaṭṭhī erected for communal feeding in western UP is invariably subterranean and is semi-oval in shape. This may be a survival of the PGW hearth corresponding to the Vedic *bhraṣṭra/bhrāṣṭra*.

The later Vedic phase is marked by the predominance of sacrificial rituals, conducted by priests and mainly meant for tribal chiefs and princes, in which laying the fire invariably plays an important part and is also prescribed for *vaiśyas* or peasants. Archaeological evidence for this practice is scarce in the PGW levels. 'Fire-altars' in the form of shallow oval or rectangular pits have been reported from Amri, Lothal and Kalibangan,[110] and possibly they continued in some form in subsequent centuries. Circular firepits discovered at Atranjikhera in the PGW levels[111] may have served sacrificial purposes. Horizontal excavations are likely to expose more of the firepits, which may have been borrowed by the PGW people from the preceding cultures.

Finally, the stage of the material equipment of the PGW-iron phase, called as such because of the distinctive character of the Painted Grey Ware and also on account of the use of iron artifacts is comparable on many counts to the material culture of the later Vedic texts. We notice the beginnings of territorial state formation, advent of social stratification, and the emergence of administrative machinery, in the later Vedic texts; all these presuppose a full-fledged agrarian society, not typical of the Ṛg Vedic phase. Although a large portion of the geographical areas covered by the *Ṛg Veda* overlaps the area covered by the later Vedic texts and PGW culture, the fact that the Ṛg Vedic people were mostly pastoral, used neither iron nor glass, and cultivated mainly barley, rules out the possibility of their being equated with the people of the PGW-iron culture. When we get more information about the earliest PGW levels without iron and the grey ware layers, it may explain the Ṛg Vedic material culture. Meanwhile the co-relation between the later Vedic texts and PGW-iron archaeology can help us study society and economy in the first half of the first millennium B.C. in the Sutlej and upper Gangetic basins.

Notes

1 *Vedic Index*, i, 165-9.

2 O. H. K. Spate and A. T. A. Learmonth, *India and Pakistan*, 3rd edn., London, 1967, p. 534.

3 In Panjab, Haryana, western UP, parts of Rajasthan, and in western Madhya Pradesh, the annual rainfall is less than 760 millimetres (30 inches), and in many places less than 200 millimetres (8 inches).

M. S. Randhawa, *A History of Agriculture in India*, Vol. I, New Delhi, 1981, p. 24.

4 M. S. Randhawa, op. cit., p. 14.

5 *AV*, X.6.23; *Śat. Br.*, XIII.4.4.9. The botanical name of this tree is *Acacia catechu*.

6 O. H. K. Spate and A. T. A. Learmonth, op. cit.. p. 85.

7 Ibid.

8 R. D. Turner, *A Comparative Dictionary of the Indo-Aryan Languages*, no. 3151. The botanical name is *Acacia arabica*, which also applies to *babul*.

9 s.v. *śiṃśapā*, Monier-Williams, *Sanskrit-English Dictionary;* Spate and Learmonth, op. cit., p. 85.

10 The tree is called *Dalbergia sissoo*, and its remains are found in Kalibangan (*IAR*, 1875-76, p. 87).

11 *VI*, i, 86. The botanical name of the trees is *Ficus glomerata*: its remains belonging to Harappan times have been found at Kalibangan (*IAR*, 1975-76, p. 87).

12 *VI*, i, 139.

13 *VI*, i, 535.

14 *VI*, i, 139.

15 *VI*, i, 189.

16 *VI*, i, 173.

17 Ibid., ii, 59.

18 Ibid., i, 534.

19 Ibid., ii, 11.

20 Ibid., 54.

21 Ibid., 205.

22 Ibid., 294.

23 Ibid., 355. The botanical name for *śamī* is *Prosopis spicigera* or *Mimosa suma*. The Prakrit term *sāmia* means burnt (Turner, op. cit., no. 12308), which means that *śamī* was meant to be burnt.

24 R. C. Gaur, 'The Painted Grey Ware at Atranjikhera—An Assessment', *Potteries in Ancient India*, ed., B. P. Sinha, Patna, n.d., pp. 185-6.

25 *Radiocarbon*, vii, 1965, 291.

26 *IAR*, 1975-76, p. 62.

27 Ibid., 1971-72, p. 86.

28 *Radiocarbon*, xx. 1978, 236.

29 Information from Shri J. P. Joshi, Director, Excavations, Archaeological Survey of India.

30 For instance these are 500 B.C. from Atranjikhera (*Radiocarbon*, xi, 1969, 188-9) and 600 B.C. from the same place (Ibid., viii, 1966, 444), but from Chirand it is 765 B.C. (Ibid., 446).

31 500 B.C. for Hastinapur (*Radiocarbon*, vi, 1964, 227-8); 500 B.C. for Khalua (Distt. Agra), (Ibid., xviii, 1976, 92); 470 B.C. for the same site, (ibid., xvii, 1975, 220); 490 B.C. for Noh, (*IAR*, 1971-72, p. 86); 465 B.C. for Atranjikhera, (*Radiocarbon*, viii, 1966, 444); 385 B.C. for Allahpur (Distt. Meerut), (*IAR*, 1973-74, p. 54, etc.).

32 *IAR*, 1973-74, p. 54; this date relates to a piece of wood recovered from an interlocking of PGW and NBP.

33 *The Cambridge History of India*, Vol. I, pp. 131-2.
34 *Vedic India*, p. 38.
35 *The Cambridge History of India*, Vol. I, pp. 64-7.
36 B. B. Lal, 'Excavation at Hastinapur and other Explorations in the Upper Ganga and Sutlej Basins 1950-52', *Ancient India*, nos. 10-11, p. 13.
37 G. R. Sharma, *The Excavations at Kauśāmbī* (1957-59): *The Defences and the Syenaciti of the Puruṣamedha*, University of Allahabad, 1960, p. 101.
38 Renou, *Vedic India*, pp. 110-11.
39 Only the publication of the full report can throw light on the stratigraphical position of these bricks which appear to be rather unusual if the PGW-iron phase is placed roughly in 1000-500 B.C. So far no carbon-14 dates have been made available.
40 Wheeler, *Early India and Pakistan*, London, 1959, p. 130.
41 *IAR*, 1963-4, p. 49.
42 Information from M. N. Deshpande.
43 *Civilizations of the Indus Valley and Beyond*, Cambridge, 1966, p. 102.
44 *VI*, i, 149.
45 Ibid., 432.
46 Ibid.
47 Since the mid-fifties we have more publications on iron in ancient India. They mainly discuss the problem of its origin or diffusion although some works touch on technological aspects. What concerns us most is not the association of iron with the megaliths, or various types of pottery such as black-and-red ware, PGW, NBP, etc., but its widespread use, outside the sphere of war, hunting and animal slaughter. Only such a development could promote production and settlement significantly. Iron became a catalyst only when its supply became common and only when the smith learnt to use such fuel and techniques as enabled him to temper and harden the artifacts. D. D. Kosambi was probably the first scholar to emphasize the social and functional dimensions of iron in the Indian context, but in view of the accumulating evidence these need further consideration.
48 *The Times of India*, Delhi edn., 26 June 1981.
49 Ibid. We are not told anything about the nature of evidence which shows the presence of bellows.
50 Ibid.
51 I.1.2.7; 6.3.16 quoted in *VI*, ii, 99.
52 XVIII.13.
53 B. K. Ghosh, *History and Culture of the Indian People*, ed., R. C. Majumdar, Vol. I, p. 232.
54 Renou, op. cit., pp. 20-1.
55 B. K. Ghosh, op. cit., p. 232.
56 Wilhelm Rau, *Staat und Gesellschaft im alten Indien*, Wiesbaden, 1957, p. 27.
57 Charles Singer, E. J. Holmyard and A. R. Hall (eds.), *A History of Technology*, Oxford, 1954, Vol. I., p. 594, fn. 1.
58 *Ancient India*, nos. 10-11, 91, 94. In addition to Hastinapur, glass objects from the PGW levels have also been reported from some sites in the Panjab. The term 'level' is used by us in the sense of 'layer' and not necessarily in the sense of structural level.

59 *Kapiṣṭhala-Kaṭha Saṃhita*, XXXI.9; *ŚBr.*, XIII.2.6.8; *Taittirya Br.*, III.9.4. 4-5; all these references are quoted in M. G. Dikshit, *History of Indian Glass*. Bombay, 1969, Appendix II, p. 162.

60 *Indian Archaeology—a Review*, 1958-59, pp. 54-5; 1962-63, pp. 31-4; 1971-72, (unpublished). Explorations and Excavations, para no. 52 (Ms with Archaeological Survey of India.)

61 The term *bhastrā* is used in the *ŚBr.*, I.1.2.7; 6.7.16 in the sense of leather bottle (*VI*, ii, 99). The literary evidence for the use of the bellows is absent, and we need information about the dating of the PGW levels with which the discovery of 'bellows' at Suneri village in Jhunjhunu district in Rajasthan has been associated.

62 H. C. Bhardwaj. *Aspects of Ancient Indian Technology*, Delhi, 1979, p. 154.

63 Ibid., p. 158.

64 Ibid.

65 Ibid.

66 All the references from the *AV*, *TS*, *Kās*, *MS* and *ŚBr.* are quoted in *VI* ii, 451.

67 *AV*, X.6.23.

68 XIII.4.4.9.

69 *AV*, III.17.3 and *VS*, XII.71 quoted in *VI*, i, 509.

70 *TS*, X.2.5.6; *MS*, II.7.12; *KS*, XVI quoted in *VI*, i, 509.

71 *VI*, i, 509.

72 Ibid., p. 173; R. L. Turner, op. cit., no. 3367.

73 *IAR*, 1965-66; plate LXX; several of the objects illustrated in this plate appear to be sickle or reaping hooks, but they have not been identified.

74 VIII.78.10; *Nirukta*, II.1 in *VI*, i, 384.

75 I.58.4.; X.101.3; in *VI*, ii, 471.

76 III.17.2 quoted in Rajchhatra Mishra, *Atharvaveda Me Sāṃskritik Tattva*, Allahabad, 1968, p. 147, fn. 3 (in Hindi).

77 *Lunāti* in the sense of 'reaps' in *TBr.*, *lavana* in the sense of reaping in *Kāty*, *Sr.*, and *lavitra* in the sense of sickle in Pāṇini; all quoted in Turner, op. cit., nos. 10986-10988.

78 G. M. Buth and K. A. Choudhury, 'Plant Remains from Atranjikhera Phase III (1200-600 B.C.)', *The Palaeobotanist* XX, no. 3, 1971, p. 286.

79 *vrīhimattvam yavamatho māṣamatho tilam*, *AV*, VI.140.2.

80 *AV*, XX.135.12.

81 *VI*, ii, 345.

82 Turner, op. cit., no. 12806.

83 Monier-Williams, op. cit., p. 365, col. 1.

84 H. D. Sankalia, *Prehistory and Protohistory of India and Pakistan*, Poona, 1974, pp. 460-1.

85 s.v. *puroḍāś*, VI, ii, 4 and Monier-Williams, op. cit., *AV*. VI.140.2.

86 Unpublished report seen through the courtesy of Prof. R. C. Gaur.

87 B. B. Lal, op. cit., pp. 107-20.

88 Ibid., p. 109.

89 B. K. Thapar, 'The Aryans; A Reappraisal of the Problem', *India's Contribution to World Thought and Culture*, ed., Lokesh Chandra, Madras, 1970, p. 150.

90 Ambarīṣa is the name of a person in *RV*, I.100.17; in the sense of frying pan, see Monier-Williams, op. cit., s.v. *ambarīṣa*.
91 Used in the sense of saucepan or cooking pot in *AV*, XII.3.23, *TS*, etc., quoted in Monier-Williams, op. cit., s.v. *ukha*; cf., *VI*, i, 83.
92 Monier-Williams, op. cit., s.v. *kandu;* cf., Turner, op. cit., nos. 2726 & 2728.
93 Monier-Williams, op. cit., s.v. *sthālī*, *VI*, ii. 487.
94 Ibid., s.v. *bhrāṣṭra*, Turner, op. cit., no. 9656.
95 *VI*, i, 163; Shivaji Singh, 'Vedic Literature on Pottery'. *Potteries in Ancient India*, p. 304.
96 In the ritual *kośa* appears as a large vessel to hold *soma*, as opposed to *kalaśa*, *VI*, i, 189; *kusūla* appears as a storage jar in Pāṇini *IV*, 3.56, *Potteries in Ancient India*, p. 267.
97 For the sense of bowl-shaped vessel see Monier-Williams, op. cit., s.v. *kuṇḍa*; Turner, op. cit., no. 3264.
98 *VI*, i, 160-1.
99 Ibid., ii, 358.
100 Singh, op. cit., p. 304 and fn. 60.
101 *IAR*, 1963-64, p. 49.
102 Ibid., 1969-70, p. 43.
103 Ibid., 1963-64, p. 44, Plate XXVII.
104 Ibid., 1965-66, p. 47, Plate XXXIIIA.
105 Ibid., 1963-64, Plate XXVIIA.
106 Picture of 47/70-71 PQ (shown to me by Dr. M. C. Joshi).
107 H. D. Sankalia, *Prehistory and Protohistory of India and Pakistan*, p. 407 and Fig. 117.
108 Turner, op. cit., no. 9656; Monier-Williams, op.cit., s.v. *bhraṣṭra*.
109 Turner, op. cit., no. 9656.
110 Sankalia, op. cit., p. 350.
111 *IAR*, 1963-64, p. 49.

CHAPTER FIVE

Material Setting and Social Formations in the Indo-Gangetic Divide and Upper Gangetic Basin (*c.* 1000-500 B.C.)

The material background to social formations in the first half of the first millennium B.C. in the Indo-Gangetic divide and the upper Gangetic basin is provided by the Painted Grey Ware and the first iron phase of culture. Settlements commonly known as the PGW sites, which lasted at many places for three centuries or more, have been reported from Bahawalpur area in Pakistan, Panjab, Haryana, western UP and the adjoining areas of Rajasthan. These areas correspond to the areas occupied by the Madras, Kuru-Pañcālas, Śūrasenas and Matsyas, who are mentioned in later Vedic texts and the *Mahābhārata*. The PGW sites are called thus, not because Painted Grey Ware is the only or even the predominant pottery found at those places but because it is a new type of pottery which appears in northern India around 1000 B.C. Altogether more than 700 sites have been located so far.

The Śrautasūtras contain memories of migration and settlement along the banks of the two hallowed rivers, Sarasvatī and Dṛṣadvatī. The two rivers flowed in the Indo-Gangetic divide, which was not so difficult to clear because of less vegetation. The process of settlement can be inferred from rituals connected with moving from one place to the other (*yat-attras*) along the banks of these rivers.[1] The one who proceeded along the bank of the Sarasvatī was called *sārasvata* and the person who followed the course of the Dṛṣadvatī was called *dārṣadvata*.[2] Details about the travel ritual to be performed by the *sārasvata* are given, and it is added that the *dārṣadvata* also observed the same ritual.[3] The *sārasvata* (incidentally we have sārasvata brāhmaṇas) proceeded from Vinaśana, lying in the great sandy desert in Sirhind district, where the Sarasvatī disappears[4] to Plakṣa Praśravaṇa, the place of the origin of the river in the Siwalik hills,[5] performing the *soma* ritual.[6] The beginning of the journey from Vinaśana was marked by the holding in Caitra (March-April) of an ordination rite (*dīkṣā*) together with a Vedic Soma sacrifice

called *atirātra*.[7] In this sacrifice a brāhmaṇa priest called *adhvaryu* stood near the consecrated fire (*āhavanīya*) and threw a stick up the river bank.[8] A household fire (*gārhapatya*) was set up at the spot where the stick fell and from it a new consecrated fire (*āhavanīya*) was made.[9] People stayed on this spot until the next morning, when the same process was repeated. This kind of ritual went on till they arrived at Plakṣa Praśravaṇa in the north-east. In the beginning of the Soma ritual at the starting point, Vinaśana, one hundred young cows in calf together with a bull (the herd was to multiply tenfold), were driven into a wood,[10] evidently used as pasture ground. The whole ritual ended at Praśravaṇa with an oblation to Agni Kāma, and a woman who had lately borne a child was given to a worthy pilgrim.[11] Apparently the first rite was meant to increase the cattle population and the second to increase human population which could not subsist without cattle rearing.

The rites prescribed in the *yat-sattras* demonstrate the process of migration and settlement undertaken by the Vedic people. In course of their movement they encountered the two rivers, and with the material equipment they possessed clearance and settlement could be effected with less difficulty on the upward course of the Sarasvatī and Dṛṣadvatī than in the areas lying eastward. A planned and systematic exploration undertaken in the beds of these rivers has brought to light 285 PGW sites in Haryana,[12] in addition to which 59 'Late Harappan' occupations have also been identified in north-eastern Haryana.[13] Obviously the PGW people, whoever they might have been, did not colonize this area for the first time. Explorations show that in northern Haryana 17 sites with PGW occupations also had 'Late Harappan' occupations.[14] At any rate it is clear that for the first time large-scale settlements in Haryana or in the Indo-Gangetic divide started with those who used PGW and associated wares such as red, coarse grey, black-on-red, etc.

Several PGW sites have 3-4 metre thick deposits which suggest continuous habitation based on assured and continuous means of subsistence. These habitations clearly show that agriculture had become the main occupation of the people. Although the wooden ploughshare was the main instrument of production, the later Vedic people had a better knowledge of seasons, used manure, and practised irrigation. The importance of cereals (*anna*) is emphasized in the *Chāndogya Upaniṣad*, which also tells us how the rains contributed to the origin of *anna* and the sun to its ripening. The *nakṣatras* were also known although their connection with agriculture may not have been established. The importance of agriculture is supported by later Vedic texts, which reflect the material culture of the

people ranging over four centuries or so from about 1000 B.C. onwards. They show that people produced not only barley, which is mentioned in the *Ṛg Veda,* but also wheat, several kinds of pulses and, above all, rice. They also produced *mudga* which takes 6-8 weeks to ripen, and they grew *kūlmāṣa* or *urad* which was considered to be the food of the poor in times of famine in the Kuru land. Although agricultural operations are mentioned in the later portions of the *Ṛg Veda,* we have a fair number of agricultural rituals in the *Atharva Veda* and the Brāhmaṇas. While the society depicted in the central portions of the *Ṛg Veda* was predominantly pastoral, the society known from the later Vedic texts and the PGW/iron archaeology was essentially agricultural. Since both the Vedic texts and PGW/ iron archaeology attest the cultivation of rice and several other cereals, these products suggest more than subsistence economy. Peasants produced a little more than what they needed to support themselves. They could maintain non-producing segments such as priests and princes together with their retinue in a manner which was not possible in the predominantly pastoral society of the *Ṛg Veda*.

The period coincides with the first phase of the use of iron in northern India. Iron appeared in the north-western part of the Indian subcontinent at the beginning of the first millennium B.C. Its use is attested in the Swat valley and in the Gomal valley. Around 1000 B.C. or a little later, in the upper Gangetic basin iron implements are reported from the Panjab, Haryana, western UP and the neighbouring areas of Rajasthan. Sanghol in Ludhiana, where iron implements have been found, is at a distance of about 500 miles from both the Swat valley and the Gomal valley.[15]

The discovery of iron weapons in a fairly large area from about 1000 B.C. onwards in northern India coincides with numerous references to this metal in the later Vedic texts of about the same period. An impressionistic view of iron artifacts discovered at Noh, Atranjikhera[16] and other excavated sites in the upper Gangetic plains and its vicinity would suggest that even in the first half of the first millennium B.C. their number is as largeas has been found in the middle Gangetic plains in the second half of the same millennium. But this preservation is the result of the alkaline[17] and sandy nature of the soil in which they are buried, and of the semiarid, dry climate which prevails in that area. If the Mehrauli pillar attributed to Gupta times is transferred to the plains of Bihar or Bengal, it may not continue in the excellent state of preservation which it has enjoyed so far. But so far very few iron tools belonging to the first half of the first millennium have been discovered, which suggests that at this

stage iron did not contribute to handicrafts and agriculture. Most iron artifacts from the PGW levels comprise arrowheads and spearheads supplemented by nails.[18] At Jakhera in Eta district in UP a ploughshare has also been discovered, but this might belong to *c.* 500 B.C. Vedic references speak of an iron knife (*asi*) used for cutting pieces of animal flesh,[19] and possibly of an iron sheild.[20] Although we have no references to iron arrowheads, the bow is the main weapon of the Vedic people.[21] References suggest that the lance/spear was the second Vedic weapon, and this fits in with the discovery of iron spearheads.[22] Therefore till the sixth century B.C. northern India did not enter into a full-fledged iron age. Only in the second phase of iron associated with the NBP levels (500-200 B.C.) do we encounter more agricultural implements.[23] This picture is consistent with the history of iron technology in western Asia and elsewhere. In the first stage it was used for purposes of war, and in the second for handicrafts and agriculture.[24] In the first phase in India, the use of iron could not be extended to production because of its paucity and primitive technology, but it may have helped the organizers of production in making their authority felt over the producers. However in this phase iron may have been used for clearance, for making wheels and the body of carts and chariots, and in the construction of houses because nails have been recovered from several PGW sites.

We can speculate on the role of iron arrowheads and spearheads, found at half a dozen PGW sites,[25] in the formation of larger communities. Iron weapons have been discovered in the kingdoms of the Kurus in the upper portion of the Gaṅgā-Yamunā doāb,[26] of the Pañcālas in the Bareilly, Budaun, Farrukhabad districts and the adjoining districts of Rohilkhand and the central *doāb*[27] of the Matsyas in the (Virāṭ region) Bharatpur, Jaipur and Alwar areas,[28] and of the Madras in the Panjab.[29] But whether any of them possessed more iron weapons than the other cannot be ascertained. As the largest deposit of iron weapons discovered so far belongs to Atranjikhera in the Pañcāla area, it seems that these people enjoyed an edge over their contemporaries in this respect. The larger kingdom of the Kuru-Pañcālas may have owed its formation to the use of iron weapons. In addition to the horse and spoked-wheel chariots, they evidently used iron-tipped arrows and spears, which have been found in the PGW layers of the excavated sites located in the areas over which they ruled. The Kuru-Pañcāla kings therefore were militarily superior to the Ṛg Vedic kings, and their capacity to extract occasional tributes from the Vedic and non-Vedic chiefs was greater.

Settled agricultural life led to the beginnings of property in houses

and possibly in land; this was in addition to property in women slaves, animals, weapons and ornaments, which appear in the age of the *Ṛg Veda*. Twelve sacrifices (*sava*) prescribed for all including the peasants in the *Atharva Veda* mostly for acquiring material benefits, and some for obtaining heaven, recommended the gift of cows, calves, oxen, gold, cooked rice, thatched houses and well-prepared and cultivated fields to the brāhmaṇas.[30] Cows, horses, 'property' (*dhana*) gold,[31] and sometimes wives[32] were placed as stakes in a game of dice. The two lists give a good idea of movable and immovable property. Provisions for saluting leaders of robbers and burglars in the Yajus texts presuppose a great deal of movable property, and indicate that the process of establishing the sanctity of property was not smooth. It is likely that the tribal practice of owning things in common still retained its hold over some people, who found it difficult to reconcile themselves to the growing institution of property and consequently took to robbery and burglary.

Land was still not an item of private property. It could not be staked away, and the practice of making land gifts to priests did not prevail on any scale. The provision for the gift of a piece of land, well-prepared and well-cultivated,[33] is in sharp contrast to the principle of the *bhūmicchidranyāya*, according to which virgin fields were to be given to the brāhmaṇas in the early Christian centuries. The Atharva Vedic injunction might suggest priestly claims to a few crops raised on the fields. The same text stresses the protection of the cattle and wife belonging to the brāhmaṇa,[34] obviously against any encroachment on them by the king, but significantly enough leaves out land; this can again be contrasted with emphasis on the protection of land grants made to him in the early Christian centuries when any stress on the protection of the brāhmaṇa's wife and cattle is lacking. In the later Vedic period land could theoretically be granted by the king or the tribal chief only with the consent of the clan or *viś*. There is nothing to show that peasants had to pay for cultivating a piece of land; the idea of land tax found in Pāṇini and the Jātakas is alien to the Vedic texts. In a completely non-monetary small-scale agriculturist society, such as the later Vedic society, land could be used and occupied by large peasant families consisting of four generations or more, but it could not be granted to a person outside the kinship group without invoking the overall authority of the king and the clan. Several texts belonging to the end of the Vedic period ban the grant of land and human beings as sacrificial fees.[35] The fact that the authority of the clan is mentioned in connection with a proposal to grant land to the brāhmaṇa[36] suggests that the priest, in spite of

the myth of the common origin of the four varṇas, was not considered to be a member of the clan of the king. What is more important, actual instances of land gifts are lacking.

The rise and growth of occupational divisions contributed to the beginnings of social differentiation. The later Vedic texts speak of four social orders or statuses based on occupation—brāhmaṇa, rājanya/kṣatriya, vaiśya and śūdra. But the four social statuses are occupational and ritualistic ranks. These cannot be regarded as four separate social classes in the sense that some of them owned land, cattle, pasture grounds and implements and the others were completely deprived of them. Land was the chief instrument of production, but there is nothing to show that princes and priests used and occupied the larger portion of the cultivable land. Similarly there is no evidence showing the distribution of pastures, and certainly not of waste and forest land. However there are clear indications of the beginnings of the unequal distribution of the produce of the land. Supported by the brāhmaṇas, the rājanyas claimed the grain tithe from the vaiśyas, and both the upper orders exploited the labour of slave women for domestic work, but still there was no mechanism for the assessment and collection of taxes. In a way the first two orders constituted the ruling class, and tried to establish their authority over the vaiśyas who formed the producing peasant class with the śūdras as a servile domestic adjunct which was small in number at this stage. But this development took place some where in the second quarter of the first millenium B.C. when it was obstructed by some tribal practices.

The mechanism of rituals was developed to establish the fiscal and administrative control of the tribal chief and his priestly ideologues over their kinsmen, who had now become mainly farmers. The main objective of the rituals, in which cakes were offered to the Maruts who symbolized the peasant order in the divine world and who were the gods of the *viś* or peasants, was to assert the authority of the king over the peasants and kinsmen, if necessary, by using force against them. The ritual indicates that if the gods received their share (*bhāgadheyam*) or the sacrificial cake, they would enable the royal sacrificer to establish his authority over his kinsmen (*sajātāḥ*), and peasants (*viś*)[37] from whom he would obtain his share. References from the *Śatapatha Brāhmaṇa* make it clear that although the nobles or warriors belonged to the same kinship group and arose out of the *viś* or the people community,[38] they lorded it over the peasantry. Royal power, it is stated, presses hard on the people, and the king is apt to strike down the people.[39] The vaiśyas, who are identical with the peasants, are considered fit to be conquered.[40] The brāhmaṇa plays an important role in making the peasantry subservient to the

nobility.[41] Through rituals he endows the ruler with power and consequently makes him stronger than the people below.[42]

The terms *grāmakāma*[43] and *grāmajītam* may indicate the desire to enjoy the regalia of authority over a *grāma*, i.e., either a village or the *viś* (peasantry) inhabiting it and belonging to the same kin. The phrase *grāmin* 'possessing a *grāma*' occurs often in the *Taittirīya Saṃhitā*[44], usually in connection with rites for acquiring a *grāma*, but in these contexts repeated mention is made of obtaining pre-eminence over kinsmen (*sajāta*) and equals (*samāna*).[45] From this it can be inferred that the terms *grāmin*, *grāmakāma* and *grāmajitam* may as well indicate the desire to acquire authority over fellow kinsmen living in the village without any control over the village land, a category that is not attested by any Vedic passage. The authors of the *Vedic Index* assume that peasants were assigned to the rājanyas for their maintenance and the latter exercised supervisory functions over them and acted as their feudal superiors.[46] In our view, though the rājanyas may have collected grain-tithes for the king from the peasants, it is clear that they were not in any way given any authority over the land cultivated by the peasants, and that land was not an important factor in the relations between the two.

The *viś* or the peasants who looked down upon the ruler, disobeyed him and revolted were strongly condemned. It is said that the people should not be placed above the nobility[47] and that those who made the *viś* equal to the nobility and thus made them refractory caused confusion between those who were better and those who were worse.[48] Any attempt to alienate or detach the peasants from the warrior-princes or the warrior-princes from the peasants is deprecated on the ground that it creates chaos and leads to evil.[49] It was not easy for nobles and warriors to attain a privileged position in relation to the peasantry, because the number of the privileged classes is always small and that of the common people large. The *Taittirīya Saṃhitā* states that the vaiśyas exceeded others in numbers.[50] Several Vedic references suggest that the vaiśyas were far more numerous than the other two classes.[51] But, in spite of the small number, the nobles dominated because of the military advantages and ritualistic support that they enjoyed.

The chief reason for establishing authority over the peasants was to collect periodical tithes from them. The king is repeatedly called the eater of the peasants,[52] which shows that he lived upon their labour. It is stated that the vaiśyas among men and cows among beasts are to be enjoyed by others.[53] They were produced from the receptacle of food, and hence the vaiśya though being eaten by others is not exhausted from the *prajanana*.[54] 'Nobility is the feeder and the people are the food; when there is abundant food for the feeder,

that realm is indeed prosperous and thrives.'[55] This statement occurs repeatedly in the *Śatapatha Brāhmaṇa* and in most other texts.[56] 'The state authority (*rāṣṭra*) feeds on the people, the state is the eater and the people are the food; the state is the deer, the people are the barley.'[57] Thus the authors of the Brāhmaṇas do not mince matters in stating the real nature of relations that was emerging between the peasantry including artisans and herdsmen on the one hand and the warrior-princes on the other, towards the end of the Vedic period. It is stated that the people set apart a special foreshare for the *kṣatra* or ruling power.[58] 'The chieftain has a share (*bhāga*) in whatever belongs to the people.'[59]

The beginnings of tax collection are found in this period. Tax is called *bali*, a term which is frequently used in this sense in the Pāli texts. The priests prayed that the king should be able to collect plenty of *bali*[60] indicating thereby that the state could not be maintained without sufficient taxes. Originally a voluntary gift, *bali* was most probably turned into an obligatory contribution in the later Vedic phase. In addition to it, *śulka* was a tax levied from the peasants. It is stated that in heaven the strong do not collect *śulka* from the weak.[61] This shows that this type of tax was collected by means of force and those who paid it were considered weak. However to the weak was held out the prospect of exemption from this tax, which of course depended on its regular payment in this world and also on the bestowal of numerous ritualistic gifts to the brāhmaṇas. But the brāhmaṇa is declared exempt from *śulka* (literally price), and the king intending to collect it from a brāhmaṇa is strongly denounced.[62]

No administrative mechanism for collecting taxes is noticeable during the later Vedic period. The term *bhāgadugha* is interpreted in the sense of tax collector, but Pūṣan, the god of the vaiśya class, was the presiding deity of a ritual in which this functionary is involved and hence its literal meaning share-yielder or distributor[63] seems to be correct. The *bhāgadugha* may have been a vaiśya functionary who represented peasant taxpayers. The kinsmen of the king seem to have acted as officials and thus may have formed a segmentary or kin-based polity. Regular collectors without having any kinship relations with the prince, as was the case in post-Vedic times, are not mentioned. The near kinsmen of the king are described as bringing *bali* to the king,[64] which means that they had to present to the king a part of the taxes collected by them from the peasants; the number of such kinsmen (*sajāta*) 'collectors' would be evidently small. The rājanyas[65] or the collaterals of the ruling tribal chief constituted his muscle men, and as such may have collected from the *viś* or the peasant, taxes in which they had a stake. They also

enforced royal authority; a rājanya is mentioned as a magistrate (*adhyakṣa*) who carried out punishment given to a vaiśya.[66]

Force was used in collecting taxes from the *viś*, and it may have been exercised by senior members of the clan of the ruling chief. We may make some guesses about the weapons used by those members. Iron arrowheads and spearheads were probably available only to the chiefs and the emerging warrior class for use against the non-Vedic peoples and the Vedic peasantry. The supply of iron was not common in the upper Gangetic basin, and probably the princes controlled the limited availability from the Kumaon and Mandi hills. The rulers also established close relations with the smiths and the carpenters including chariot-makers, who were considered to be members of the royal establishment. The use of metals in the rituals performed in the houses of smiths and carpenters suggests that they possessed the knowledge of metal (iron) technology,[67] whose main advantages went to those sections of the tribal communities which tended to specialize in fighting.

We have no clear idea about the nature of the taxes collected from the peasants. In spite of the use of gold[68] the later Vedic society was a non-monetary society in which taxes had to be collected only in kind. In a ritual, cooked grain and a goat are offered to Yama for granting the donor exemption from *śulka*. This might suggest that taxes consisted of grain and animals. The royal share amounting to 1/12 or 1/10 of the produce, as prescribed in the law-books,[69] may have been the norm in later Vedic times. The fact that the councillors of Yama were entitled to 1/16 suggests that the rājanya received as his commission 1/16 of what he had collected[70]; the remainder went to the king. Whether craftsmen and merchants, whose number in any case was small, had to pay any tax is not clear. Possibly artisans rendered service to princes and the community for food and payment in kind.

Once collected, the tax in kind may have been divided between the kings and the rājanyas or their collaterals.[71] There is little evidence of feedback to the peasantry. The only occasions seem to have been provided by public sacrifices such as the *aśvamedha*, *rājasūya*, etc., to which all sections of the community seem to have been invited and fed. We have a description of the sumptuous feeding of members of various castes and occupations in the *aśvamedha* held by Dasaratha in the *Rāmāyaṇa*, which may be regarded as reflecting a tradition established in earlier times. The *Mahābhārata* gives similar descriptions of the *rājasūya* and *aśvamedha* sacrifices.

By and large instead of being consumed by the community as a whole, the taxes and tributes collected from peasants were mainly shared by the rājanyas/kṣatriyas and the brāhmaṇas. The early

portions of the *Ṛg Veda* speak of the distribution of whatever was procured by the people in several tribal assemblies including the *vidatha*; this does suggest the division of the tribe into unequal social and economic groups. It is also likely that in early times the institution of mutual gifts established and sustained social relationships and served the needs of a pastoral and agricultural society, but by the end of the Vedic age it came to be manipulated by the rājanyas and brāhmaṇas in such a manner that while the former claimed the monopoly of receiving secular gifts or tax from the *viś* or peasants without giving anything else except protection, the latter claimed the monopoly of ceremonial gifts from the princes, nobles and peasants.

All the available evidence from the *Atharva Veda* and the Brāhmaṇas makes it clear that only the peasants were meant for paying taxes. The king is called the devourer of peasants (*viśamattā*),[72] a task in which the rājanyas and the priests formed his indispensable partners. He is not called the devourer of territory which would imply exploitation of all its inhabitants and indicate royal control over land. The *rāṣṭra*[73] or the kingdom may have consisted of *grāmas*, the control over or the conquest of which added to the authority and resources of the prince. No other administrative units are mentioned. At this stage the territorial organization of administration was very rudimentary. At one place Indra is asked to give the king a share in villages, in cattle, and horses, and to deny the same to his enemy,[74] but this gives an indication of the collections following a war. Any piece of land or any territory as a fiscal unit does not exist. It is the people (*viś* or peasants) who are to be taxed. The *sajāta* (kinsmen of the king), who symbolize the warrior class, is called *balihṛt*[75] or the one who brings presents. But he himself does not produce *bali*; on the other hand he collects it from the peasants. The vaiśya, who symbolize the peasantry, is called both *balihṛt*[76] and *balikṛt*.[77] Apparently the term *balihṛt* is used differently at different places. The brāhmaṇa or śūdra is not to be taxed, and the rājanya/kṣatriya seems to have been exempted. Priests supported this social and political arrangement by elaborating and inventing rituals and composing laudatory verses; in return the king and rājanya paid the brāhmaṇa a part of the booty and *bali*.

The śūdras at this stage were a small serving class who could be oppressed and beaten at will by the king.[78] They were not serfs as suggested by Keith,[79] and the number of slaves who were mainly domestic and women may have added to the personal comforts of the nobles and priests, but it did not affect agricultural production. The fact that the vaiśyas and the śūdras began to be saddled with disabilities was concealed by a number of public rituals invented

by the priests. The *bhāgadugha*, *vaiśya grāmaṇī*, *rathakāra* and *takṣan*, all belonging to the *viś* or people, participated in the *rājasūya*. This could give them ritualistic satisfaction and also a position of prestige in relation to the ordinary members of the community. The same purpose may have been served by śūdras' participation in coronation ceremonies.

Although seventeen types of priests officiated at princely sacrifices, the brāhmaṇa gradually climbed to the top and towards the end of the Vedic period claimed half of the sacrificial fee, which had become richer in content. In the age of the *Ṛg Veda*, when cattle-rearing was supplemented by agriculture, cattle constituted the common object of gift. But with the advance of agricuture surplus grain was made available for payment as tax to the king who passed a good share of his wealth on to the brāhmaṇa. To the list of gifts comprising cattle, horses and female slaves were now added elephants, gold, silver and various types of grain and cloth. In a text of about the seventh century B.C., on the occasion of his great coronation ceremony (*rājasūya*) Aṅga is said to have given to his priest Udamaya Ātreya 10,000 elephants, 10,000 rich maidservants wearing gold necklaces, millions of cows and 88,000 white horses.[80] For the same ceremony other monarchs are said to have given to their priests 10,000 cows,[81] 1000 pieces of gold and even land.[82] Similar staggering numbers are mentioned in the epics whenever there is an occasion for public sacrifice and domestic ritual. All these figures are exaggerated, and some of these traditions may have been invented by the brāhmaṇas to ensure a steady flow of rich gifts from their princely patrons. In fact in the *Rāmāyaṇa* a heretic attributes materialistic motives to the brāhmaṇas for inventing the rituals. In any case in later Vedic times, gifts came to consist of numerous items which tended to strengthen the position of priests.

Through ritual the authority of the brāhmaṇas and rājanyas was strengthened over the vaiśyas who accounted for the majority of population and śūdras whose number was small in Vedic kingdoms. Rituals also served another purpose. They were used to win allies for the Vedic ruling class among the chiefs of the non-Vedic peoples living on the periphery of the Vedic kingdoms. Probably they lived in the chalcolithic stage of culture and used red ware and black-and-red ware. Elaborate rituals were prescribed for the admission of the Vrātya chief of Magadha to Vedic society.[83] Similarly the chief of the Niṣādas, called *sthapati*, finds a place in Vedic rituals meant for higher orders.[84] Kings of the Āyogava tribe[85] and the Śūdra tribe[86] are accommodated in the Vedic rituals, and several tribes living in central India and the Deccan are called the progeny of the sons of the sage Viśvāmitra.[87]

The efforts of Rāma to establish friendly relations with the Vānaras may be considered as an important step in the acculturation of the tribal people.

People who did not belong to one of the Vedic tribes *jana* were called *janya*, and given a place in coronation rituals.[88] We learn from the *Mahābhārata* that matrimonial relations with a *janya* or with one outside the tribal group were cemented through the presentation of gifts,[89] a practice which is followed in many tribal communities. These rituals transcended considerations of kinship and helped the formation of wider communities. The fact that four out of about a dozen *ratnins* to whose houses the king went in connection with a coronation ritual were women shows that due concession was made to the matrilineal customs of the non-Vedic tribes. Further the institution of hospitality was introduced for establishing relations with people outside the kin system. The provisions for receiving a guest in the *Atharva Veda*[90] show that the guest belonged to a well-to-do family. It was an attempt to establish peaceful relations with tribal heads, chiefs, etc., belonging to clans or larger kin-based groups different from those of the host. The practice of receiving somebody from outside the tribe in the course of normal activities was a revolutionary step which helped the growth of non-tribal systems. In all these rituals the priests operated as a kind of bridge between the ruling chiefs of Vedic and those of non-Vedic communities and helped the formation of a ruling class in opposition to peasants and artisans.

But the relations between the priests and the princes were not always cordial. The rituals strengthened the power of the priests, but they proved costly to the princes who had to make large and frequent gifts. Senseless slaughter of cattle, a pastoral and semi-nomadic legacy sanctified and elaborated by ritual, hampered agriculture and narrowed the resources of the princes and their retinue. The priests derived their income from both princes and peasants, but the princes and warrior-nobles had to depend only on the peasants. The peasants were considered 'fit to be eaten' not only by the rājanyas but also by the brāhmaṇas.[91] Obviously both claimed special shares as representatives of the wider tribal community in the name of tribal welfare. Rituals connected with agricultural operations and house building, and meant for obtaining material and spiritual benefits, especially prescribed in the *Atharva Veda*, brought a steady income from the peasants to the priests. All this may have adversely affected the royal share. The cattle-owning brāhmaṇas claimed special protection for their cattle and women. The priestly pretensions to the highest social status wounded the vanity of the princes. All these factors led to a

conflict between the princes and the priests, but the most important issue was the sharing of the surplus grain and cattle made available by the vaiśyas.

Echoes of conflicts are found in the later Vedic texts. We hear of conflict between Sudās and his priest Vasiṣthas.[92] A fight took place between the Sṛnjaya Vaitahavyas and their priests Bhṛgus resulting in the destruction of the former.[93] The Śyaparṇas were thrown out of priesthood by their client Viśvantara Sauṣadmana on account of their quarrel over the sacrificial fee, but eventually the dispute was settled, and 1000 cows were given to Rāma Mārgaveya, a Syaparṇa.[94] We also hear of a dispute between Janamejaya and his priests Asitmṛgas.[95] Traditions of a long drawn-out conflict between the princes and priests recorded in the epics and Purāṇas probably refer to the later Vedic period. On the other hand indications of tensions and instances of conflicts between families of priests for the patronage of princes are not lacking.

The conflict between the two components of the ruling class manifested itself ideologically. The brāhmaṇas claimed special privileges in Book XV of the *Atharva Veda*, and in the *Aitareya* and *Śatapatha Brāhmaṇas* they made out a case for their supremacy by adding fanciful explanations to several coronation rituals. The princes attacked the validity of rituals as a whole and laid emphasis on acquiring the knowledge of the Absolute or Brahma which in their view pervaded all beings, animate or otherwise. Brahma, the Absolute, in a way symbolized the growing royal authority of the Kuru-Pañcālas who had brought all the lesser tribal chiefs under their control. Similarly the concept of indestructible *ātmā* tended to give some kind of stability to the new social order which was emerging as a result of the undermining of the tribal system. The later Vedic texts speak of at least four kṣatriya princes[96] who had mastered *brahmavidyā* and taught it to the brāhmaṇas.[97] Macdonell and Keith attribute these traditions to the brāhmaṇas' flattery of the princes.[98] This does not stand to reason, for the kṣatriya princes are never credited with the invention of rituals in which the later Vedic texts abound.

As the conflict for sharing the social surplus became acute towards the end of the Vedic period, the latest Vedic texts, particularly the *Śatapatha Brāhmaṇa*, found it necessary to stress unity and cooperation between the kṣatriyas and the brāhmaṇas.[99] Although traditions do not refer to vaiśya or peasant resistance, rituals hint at them. What is more important, the perpetual need for collecting tributes and sacrificial fees from the peasantry supplemented by the demand for the services of the śūdras kept the two upper social groups together. If we take an overall view of relations between different social classes.

the focus of social conflict seems to be confined to the relation between the kṣatriyas and the vaiśyas. We notice attempts at suppressing the tribal peasantry and making them pay regularly.

Later Vedic social formations can be compared in some ways to those in the archaic societies of Greece and Iran. In contrast to the Ṛg Vedic society and the prevailing Indo-European societies it is marked by the dominance of the priestly class which appears to be as important as that of the nobles and warriors. This may in part be due to the priestly nature of our source material. Starting as one of the seventeen types of priests the brāhmaṇa overshadowed them all, came to demand half of all the sacrificial fee, and eventually insisted on all categories of priests being brāhmaṇas The rise and growth of the brāhmaṇa class is attributed to the mingling of the Indo-Europeans with the pre-Aryans, for which some literary evidence can be produced. Some archaeological support can also be cited on the basis of the overlapping of pottery in the Harappan tradition with the PGW whose users are identified with a wave of the Āryans. This overlap has been discovered at several places. Several sacrificial pits have been found both in pre-PGW cultures[100] and in PGW sites.[101] This shows that the older form of ritualism continued in the PGW-iron phase which may be equated with the later Vedic period. Pre-Vedic rituals were partly strengthened by those brought by the Vedic people. Only two out of the seven types of Ṛg Vedic priests can be traced to the Indo-Iranian phase;[102] the remainder developed on Indian soil, and by later Vedic times on account of the increasing number and refined methods of sacrifice the total number of priests rose to seventeen.

It is thought that the more primitive a society is the more rituals it generates, but the expensive rituals of the later Vedic society presuppose availability of some social surplus. However this social surplus does not appear so much in the form of cereals as in the form of cattle, horses, female slaves, *niṣka*, etc., and in every case the figures are highly exaggerated. The depiction of numerous gods in the hymns clearly betrays the inability of the Ṛg Vedic people to comprehend the operation of natural forces against which they were fighting; this inability did not take them beyond the simplest rituals. Evidently the pastoral and semi-nomadic life of the people did not lend itself to the growth of large-scale rituals. Once they adopted a sedentary life based on cultivation the later Vedic phase rituals came to the forefront. The social surplus may not have been large, but it was sufficient to meet the needs of ritual. However in spite of the spread of the foodproducing economy in the greater part of the Indo-Gangetic divide and the upper Gangetic plains in the first half of the first millennium B.C. the

production of the surplus and even of cereals for subsistence suffered from certain constraints which made livelihood insecure. The chief constraint seems to have been the continuity of pre-iron field agriculture for a long time. In the upper Gangetic plains iron did not become an effective element in production till *c*. 500 B.C. In Greece iron-based crafts and agriculture appeared about four centuries earlier, and in Iran about two centuries earlier than India.[103] Hence in the period when the Greeks were able to establish more control over nature and substantially improve their mode of production, India still suffered from low agricultural productivity. Conquest of nature not only contributes to productivity but also produces self-confidence in man and creates a climate for the growth of rationalist ideas. All this happened in a big way towards the end of the later Vedic phase and especially in the age of the Buddha. But in the major part of the later Vedic period ritualism and the ritualist class grew far more rapidly in this country. The *Yajus*' rituals are mostly the product of the pre-iron agriculture phase. Priests or brāhmaṇas became the masters of religious ceremonies which came to pervade almost every facet of life. The later Vedic society, like the Homeric or the Avestan society, was an agrarian or peasant society dominated by the warrior nobles, but here the priests lent a much stronger hand to the rulers than they did in Greece and Iran.

In brief, the two crucial social formations, the class and the state, were not well established in the later Vedic age. Each one of them needed solid material support and universal social recognition. The Vedic communities had neither a regular taxation system nor a regular standing army. Collectors of taxes did not exist apart from the kinsmen of the prince, and the difference between tax and sacrificial offering called *bali* had not been completely blurred. We do not get direct evidence regarding the prevalence of any system of taxation. The tribal militia of the pastoral society was replaced by the peasant militia of agricultural society, for without a well-established taxation system it was not possible to maintain a regular army. Although the terms *senā*, *senānī* and *senāpati* are mentioned at several places, there is nothing to show that the kings of the Vedic age kept up a professional army all the year round. The *viś* was associated with the *senā* or the armed host.[104] Force or *bala* was considered to be identical with the *viś* or the peasantry[105] in later Vedic times, who as distant kinsmen of the king received a share of the booty.[106] The army to protect the *aśvamedha* horse comprised both the kṣatriya and the viś. Armed with bows, quivers and shields, the former acted as military captains and leaders; armed with sticks, the latter constituted the rank and

file. For the sake of victory the *Śatapatha Brāhmaṇa* advises a chief or a noble to eat from the same vessel with the *viś*,[107] whose help is declared to be indispensable to his success.[108]

The later Vedic society had territorial kingdoms in the sense that the people led a settled, food producing life under their princes; several sites show continuous habitation for two to three centuries. But the element of kinship was still strong, and the territorial idea did not submerge tribal ties. The peasants were not completely alienated from the princes and priests who were getting differentiated within the tribal communities. Towards the end of the Vedic period the peasant paid to the nobles and warriors who in their turn paid generously to the priests; in addition the peasant also paid a sacrificial fee to the priests. Artisans such as smiths, chariot-makers and carpenters mainly served the emerging class of warriors. It seems that in the exchange of goods, gifts played a more important part than trade. The later Vedic peasant did not have to support towns and traders, a feature which became prominent in the age of the Buddha. His was a small-scale non-monetary peasant society and not a full-fledged class society. *Niṣka* and *śatamāna* served as 'prestige' objects mentioned in connection with gifts. It was, thus, a peasant society with prominent tribal characteristics. In spite of the priestly stress on the subjection of the peasantry or vaiśyas to the nobles and warriors, the limited availability of agricultural surplus on account of pre-field wooden ploughshare-based agriculture and indiscriminate killing of cattle in sacrifices, could not sharpen class antagonisms. On the other hand tribal practices demanded that princes extend agriculture and even lend their hands to the plough, so that the gap between the vaiśya and the rājanya was not very wide. The princes were also expected to share their wealth with the people in public sacrifices and on other occasions. Although the nobles and warriors ruled over their peasant kinsmen, their dependence on the peasant militia during battles against their enemies and inability to grant land without the consent of the tribal peasantry placed them in a difficult position. To such a formation the term 'chiefdom' used by anthropologists may be applied, although this is now being discarded.[109] In any case chiefdom may be considered to be a phase of transition from an egalitarian tribal society, of which we have strong traces in some institutions of the *Ṛg Veda* to a society which is marked by the emergence of ranks and an incipient state. Sometimes a strong element of priesthood is associated with chiefdom; this may be true of later Vedic times but not of the *Ṛg Veda* which also betrays some traits of tribal chieftaincy.

It was only in the second phase of the age of iron beginning in *c*. 500

B.C. in eastern UP and Bihar, when iron began to be used more in crafts and agriculture, that the classes of artisans, peasants and agricultural labourers were detached socially and occupationally from those of priests and warriors. In this phase the producing masses were saddled with social disabilities and economic obligations, which were enforced through the establishment of a professional army and an administrative apparatus which collected taxes and punished offences against family, property and social order. The legal and ideological outfit for the new order was provided by a well-defined varṇa system.

NOTES

1 L. D. Barnett, *Antiquities of India*, p. 197.
2 Ibid.
3 Ibid., p. 198.
4 N. L. Dey, *The Geographical Dictionary of Ancient and Medieval India*, New Delhi, 1971, p. 37.
5 Ibid., pp. 480-1.
6 Barnett, op. cit., p. 197.
7 Ibid.
8 Ibid.
9 Ibid.
10 Ibid.
11 Ibid.
12 This has been done by Dr Breham Dutt of Kurukshetra University. I am told that more than 80 such sites have also been located in Karnal by another researcher of the same university.
13 Suraj Bhan and Jim G. Schaffer, 'New Discoveries in Northern Haryana', *Man and Environment*, ii, 1978, 63.
14 Ibid.
15 Probably iron technology in the upper Gangetic basin came from the Swat valley although the intermediate region of about 500 miles needs to be explored.
16 I have seen the iron objects from Atranjikhera in the Department of History, Aligarh Muslim University.
17 Experiments show that the addition of alkalis to the water removes the carbonic acid and retards the rusting of iron. J. R. Partington, *A Text-Book of Inorganic Chemistry*, 6th edn., London, 1963, p. 924.
18 The 1962 excavation at Hastinapur yielded three iron objects including a nail and an arrowhead, one of which was from the earliest PGW phase (information from B. M. Pande, Archaeological Survey of India, New Delhi). A spearhead, a barbed arrowhead, and nails and pins were recovered from Alamgirpur (*IAR*, 1958-9, 54-5). Dishes, arrowheads and spearheads were recovered from Noh in Bharatpur (*IAR*, 1971-2, 42). The

use of iron at Bairat in the district of Jaipur was attested from the earliest occupation but the nature of the iron objects is not specified, (*IAR*, 1962-3, 31). A spearhead was reported from Vetaser in Agra district (cyclostyled note on the Excavation circulated on the occasion of the New Delhi [1974] meeting of Central Advisory Committee for Archaeology).

19 *AV*, IX.5.4.

20 *Jaiminīya Upaniṣad Brāhmaṇa*, IV.1; it is a very late text, as late as the sixth century B.C.

21 *VI*, i, 205.

22 In the late portions of the *Ṛg Veda* the lance is called *pavira* (*RV*, X.60.3; I.174.4), and in the Yajus texts the ploughshare is called lance-pointed (*pavirava*) (*VS*, XII.71). The other terms used for lance/spear in the Vedic literature are *ṛṣṭi* (*VI*, i, 118), *srka* (*VI*, ii, 468), and *srakti* (ibid. 490). Also see S. D. Singh, *Ancient Indian Warfare with Special Reference to the Vedic Period*, Leiden, 1965, 94-5.

23 O. P. Tandon, 'Alamgirpur and the Iron Age in India', *Purātattva*, no. 1 (1968), p. 59.

24 Henry Hodges, *Technology in the Ancient World*, Harmondoworth, 1971, p. 124.

25 Supra, fn. 18.

26 The Kuru kingdom corresponds to modern Thaneser, Delhi and the greater part of the upper Gangetic *doāb*. H. C. Raychaudhuri, *Political History of Ancient India*, 7th edn., University of Calcutta, 1972, p. 21.

27 Ibid., p. 64 The Kuru-Pāñcāla area was the epicentre of the Painted Grey Ware.

28 Ibid., pp. 61-2.

29 Ibid., pp. 58-9.

30 Rajachhatra Mishra, *Atharvaved Men Sāṃskṛtik Tattva*, Allahabad, 1968, pp. 86-90.

31 *AV*, VII.20.8-9; VI.118.3.

32 *AV*, VI.118.3.

33 For *urvarāsava* see Mishra, op. cit., p. 90.

34 *AV*, V.17-19.

35 The term used is *bhūmipuruṣavarjam* or *bhūmiśūdravarjam;* see R. S. Sharma, *Śūdras in Ancient India*, Delhi, 1958, p. 46.

36 *Ait. Br.*, VIII.21; *Śat. Br.*, XIII.7.1.15.

37 *TS*, II.2.11.2.

38 Jogiraj Basu, *India of the Age of the Brāhmaṇas*, Calcutta, 1969, pp. 115-16.

39 *Śat. Br.*, XIII.2.9.6.

40 *Ait. Br.*, VII.29.3.

41 *Śat. Br.*, XII.7.3.12.

42 Ibid., IX.4.3.3.

43 *TS*, II.2.11.2.

44 Ibid.

45 *VI*, ii, 513.

46 *VI*, i, 205.

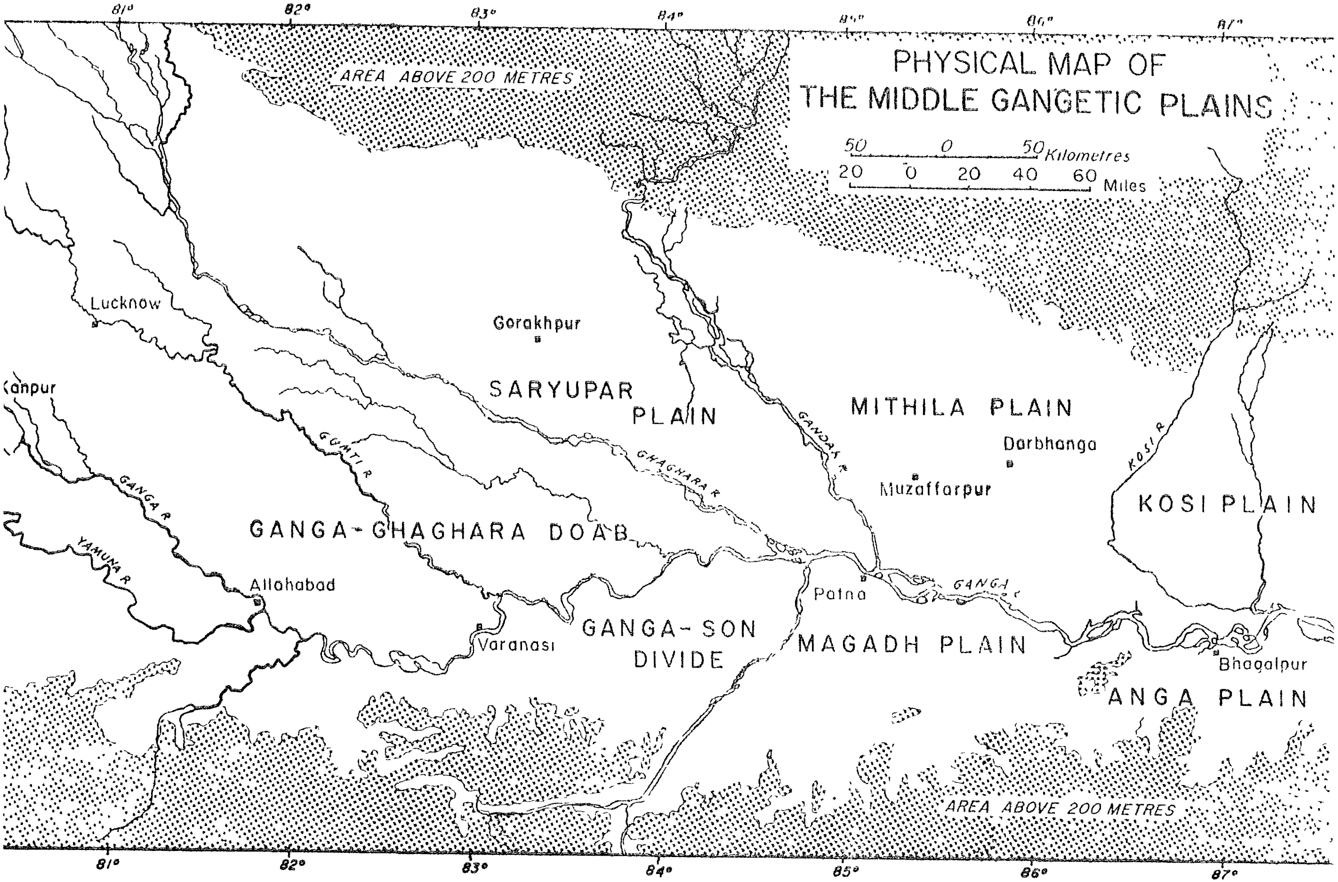
47 Ibid., viii, 7.1.12.

48 Ibid., x, 4.3.22.

49 ŚBR., xii. 7.3.15.

50 VII.1.1.5.
51 P. V. Kane. *History of Dharmaśāstra*, ii, pt. 1, 41.
52 *AV*, III.4.2.
53 *TS*, VII.1.1.5.
54 Ibid.
55 *Śat. Br.*, VI.1.2.25.
56 Jogiraj Basu, op. cit , p. 116.
57 *Śat. Br.*, XIII.2.9.8. In the *Taittirīya Brāhmaṇa* (III.9.7.2) it is however stated that the *rāṣṭra* is the barley and people are the deer. It might indicate the obligation of the chief to feed the people through redistribution.
58 *Śat. Br.*, IX.1.1.25.
59 Ibid., IX.1.1.18.
60 *AV*, III.4.3.
61 *AV*, III.29.3.
62 *AV*, V.19.3.
63 I took *bhāgadugha* in the sense of collector (*Aspects of Political Ideas and Institutions in Ancient India*, Delhi, 1968, pp. 137-8), but its association with Pūṣan leads me to revise my opinion.
64 *AV*, XI.1.6.
65 *VI*, ii, 216. Until we come to the *Śatapatha Brāhmaṇa* of about the sixth century B.C., in all the earlier texts of the later Vedic period rājanya is a more frequent term used for the warrior class; only towards the end of the Vedic period and in post-Vedic times is it replaced by the term kṣatriya, which embraced all types of nobles and warriors concerned with war and politics.
66 *Kāṭhaka Saṃhitā*, XXVII. 4.
67 *Maitrāyaṇī Saṃhitā*, II.6.5; *Āpastamba Śrautasūtra*, XVIII.10.17.
68 There has been considerable discussion on the meaning of the term *niṣka*, but it was nothing more than a piece of gold. It may have been used as a 'prestige' object in making gifts on ceremonial occasions, and it did not contribute to production or circulation of goods.
69 *Gautama*, X.24; *Manu*, VII.130.
70 *AV*, III.29.1.
71 There does not seem to have been any provision for the storage of grain, animals, etc. The term *kośa* is used in the sense of pot and not in the sense of treasury in the Vedic texts. The *saṃgrhatṛ* is taken as a treasurer of the king, but his association with the Aśvins indicates that he is a charioteer.
72 *Ait. Br.*, VIII.17.
73 *VI*, ii, 223.
74 *AV*, IV.22.2.
75 *AV*, XI.1.6.
76 *Kāṭhaka Saṃhitā*, XXX.7.
77 *Ait. Br.*, VII.29.
78 Ibid.
79 *The Cambridge History of India*, i, ed., E. J. Rapson, Rpt., Delhi, 1955, p. 115.
80 *Ait. Br.*, VIII.22.
81 Ibid., VIII.37.7.
82 Ibid., VIII.39.6.

83 *AV*, XV; *Pañcaviṃśa Br.*, XVII.1.2.
84 R. S. Sharma, *Śūdras in Ancient India*, p. 71.
85 *Śat. Br.*, XIII.5.4.6.
86 The procedures in the assemblies of the Kurus and the Pañcālas are distinguished from those in the assemblies of the Śūdras. Raychaudhuri, op. cit., p. 156. Also see Sharma, *Śūdras in Ancient India*, Ch. II.
87 *Ait. Br.*, VII.18.
88 Sharma, *Śūdras in Ancient India*, p. 56.
89 *Jaya-Samhita*, ed. K. K. Shastree, i, Ahmedabad, 1977, I. 213.40.
90 *AV*, IX.6.
91 *Pañcaviṃśa Br*, VI.1.10; *Śat. Br.*, V.2.1.17; VIII.7.1.2, 2.2.
92 *VI*, ii, 275-6.
93 *VI*, 110.
94 *VI*, 309.
95 *VI*, i, 48; ii, 89.
96 *VI*, ii, 87, 262.
97 Ibid.
98 Ibid., 262.
99 Many references are quoted in *VI*, i, 204 fn. 11.
100 H. D. Sankalia, op cit., p. 350.
101 *IAR*, 1963-64, 49. J. P. Joshi informs me that he has noticed bones of animals in a 'sacrificial pit' (according to him) in a strata corresponding to the PGW phase in Ujjain.
102 Jogiraj Basu, op. cit., pp. 175-6.
103 Radomir Pleiner, 'The Problem of the Beginning of Iron Age in India', *Acta Praehistorica et Archaeologica*, 2, 1971, 30.
104 *VI*, ii, 251.
105 Ibid., fn. 15.
106 *Udāja* and *nirāja* are the terms used for the royal share (*VI*, i, 86), which may have been of special nature as distinguished from the shares of the rank and file.
107 *Śat. Br.*, IV.3.3.15.
108 Ibid., V.4.3.8. Alexander's historians give the numerical strength of the army of the king of the eastern India and the Gangetic basin, where a standing army may have been set up in the sixth century B.C.
109 In 1961 Marshall D. Sahlins presented four types of organization corresponding to four stages of evolution: the band, the tribe, the chiefdom and the state ('The Segmentary Lineage: an organization of Predatory Expansion', *American Anthropologist*, Vol. 63, pp. 322-45). In 1968 he dropped the chiefdom and retained the remaining three types, (*Tribesmen*, Prentice Hall, 1968). These remarks are based on Andre Béteille's, 'On the Concept of Tribe', *International Social Science Journal*, xxxii, 1980, pp. 825-8.


PHYSICAL MAP OF
THE MIDDLE GANGETIC PLAINS
50 0 50 Kilometres
20 0 20 40 60 Miles
AREA ABOVE 200 METRES
Lucknow
Kanpur
Gorakhpur
SARYUPAR PLAIN
MITHILA PLAIN
Darbhanga
Muzaffarpur
KOSI R
KOSI PLAIN
GANDAK R
GHAGHARA R
GUMTI R
GANGA R
YAMUNA R
GANGA-GHAGHARA DOAB
Allahabad
Varanasi
GANGA-SON DIVIDE
Patna
GANGA
MAGADH PLAIN
Bhagalpur
ANGA PLAIN
AREA ABOVE 200 METRES
81°
82°
83°
84°
85°
86°
87°

CHAPTER SIX

Productive Forces and Their Social Implications in the Age of the Buddha in the Middle Gangetic Basin

The limitations imposed on agricultural production in the upper Gangetic basin in the first half of the first millennium B.C. were removed in its second half when part of the population moved to the middle Gangetic basin.

The middle Gangetic zone was not coterminus with Madhyadeśa or Āryāvarta, which extended originally from Kurukshetra to Allahabad. It mainly comprised Majjhimadesa, the birthplace of Buddhism, which chiefly covered eastern UP and Bihar. Its eastern limit was the town of Kajaṅgala,[1] which was located not far from Rajmahal, although originally a place bearing such a name seems to have been set up near Rajgir. On the west Majjhimadesa extended to the brāhmaṇa village Thūṇa, which was situated in Kosala.[2] It would therefore appear that the middle Gangetic zone or the original Majjhimadesa extended from Allahabad to Rajmahal, and was more or less identical with ancient Kosala and Magadha. In course of time the frontiers of Majjhimadesa came to include not only Kuru, Pañcāla and Śūrasena but also Vaṅga and Kaliṅga;[3] an extension of boundaries took place in the case of the brāhmaṇical Madhyadeśa also.

At present the middle Gangetic plains, which are also called 'a transition zone' between the upper Gangetic plains and the deltaic zone in Bengal,[4] cover an area of 62,000 sq. miles.[5] The rainfall in this area ranges between 40 inches in the west to 70 inches in the east[6] but the main mass of this region receive 45 to 55 inches of rain,[7] which, in a stage of pre-field agriculture and pre-mass settlement, is sufficient to promote thick vegetation and create difficult problems of clearance. In northern Bihar 'the landscape is...of distinctly more humid aspect than that of western Uttar Pradesh'.[8] Humidity, as will be shown later, is fatal to the preservation of many antiquities including iron objects buried in the soil. As we proceed from the west to the east, sands (the great preservers of objects

buried in them) decrease and loams increase in the central Gangetic plains.[9] But the alluvial soil of Patna and Gaya districts is very heavy and clayey and difficult to break before the onset of the monsoons.[10] However the soil of both the upper and middle Gangetic plains is rated high, although a map reproduced by Spate and Learmonth[11] shows that the region indicating high rating is proportionately larger in the middle Gangetic plains than in the upper Gangetic plains.

The colonization of the middle Gangetic basin is affirmed not only by references in the *Śatapatha Brāhmaṇa*,[12] but also by the hypothesis regarding the development of the Painted Grey Ware into North Black Polished Ware or NBP.[13] It is our view that the age of the Buddha saw the emergence of a full-fledged agricultural society stabilized by division into ritualistic social classes by the Dharmasūtras and consolidated by the teachings of the Buddha in *c.* 500–300 B.C. But before we try to prove this hypothesis it is necessary to examine the nature of our sources, which enable us to identify the main elements in material culture and spot out the significant social changes of the period.

We possess quite a few literary texts which can be placed in *c.* 500—300 B.C. In using the Pāli texts for the study of social and economic developments in the age of the Buddha one may leave out the Jātakas, which have been mainly tapped so far for this purpose. But generally all the Nikāyas except the *Khuddaka Nikāya* may be placed before *c.* 300 B.C. The *Vinaya Piṭaka* is possibly a Maurya text, and hence is not being used in this study. But the major portion of the *Suttanipāta*, leaving aside the *aṭṭhakavagga* and *parāyaṇavagga*,[14] may be placed in pre-Maurya times. On the basis of a careful study of the metres it has been asserted that most of this text is pre-Maurya.[15] Three *suttas* from this text[16] and several others, from the *Dīgha Nikāya*, and even the *Vinaya* are quoted in the Bhabru Edict of Aśoka in about the middle of the third century B.C. It is further said that the prose portions of the *Dīgha Nikāya* read like the prose portions of the Brāhmaṇas. In the opinion of Winternitz the earliest stratum is represented in the first book of this text.[17] All this provides sufficient evidence for the existence of a large part of the corpus of Pāli texts in pre-Maurya times.

The Pāli texts written in the language of Magadha mainly describe the state of affairs in eastern UP and Bihar. But they can be considered in conjunction with the grammar of Pāṇini, which is a most valuable source of information for pre-Maurya times in northern India. Even at a most conservative estimate Pāṇini has to be placed between 500 B.C. and 400 B.C.[18] Its picture of social and material life is more reliable because it is based on illustrations of grammatical rules. It tallies closely with what is known from the

early Pāli texts. Of course Pāṇini is more relevant to the Indus and western Gangetic basin, but the general trend of developments in northern India known from this text cannot be ignored. Further several Gṛhyasūtras and Dharmasūtras, especially those by Āpastamba are either earlier than Pāṇini, or before Pāṇini had acquired general acceptance.[19] According to these criteria the Śrautasūtras generally belong to pre-Maurya times. Again these brāhmaṇical texts generally reflect patterns of development in northern India, and not only in eastern UP and Bihar to which the early Pāli texts apply. The Pāli texts are most valuable for two reasons. The teachings attributed to Gautama Buddha reflect the contemporary social outlook, and numerous imageries drawn from the world of crafts, agriculture and cattle-rearing indicate the nature of material culture that developed in pre-Maurya times.

During the last three decades our knowledge of the material culture of the age of the Buddha has been immensely enriched by the development of the North Black Polished Ware archaeology. It may roughly be divided into two phases, i.e., 600—300 B.C. and 300-100 B.C. When carbon-14 methods for dating were not in use, stratigraphically the date of the NBP was fixed in the bracket *c.* 600 B.C.-200 B.C. After the availability of a good run of carbon-14 dates, 500-50 B.C. was suggested as the bracket.[20] But even if we take carbon-14 dates corrected by the method of calibration, which itself shows a wide range of variation, an overall view of the different NBP layers at different sites in northern India, especially in the middle Gangetic plains, does not allow us to postulate seventh century B.C. for Kauśāmbi and eighth century B.C. for Mathura for the advent of the NBP, as has been done recently.[21] There is only one early date for Kauśāmbi,[22] and all the three early c-14 Mathura dates on the basis of samples recovered from Trench 11 carry question marks.[23] It is rightly held by the Mathura excavator that the NBP phase began in Mathura in Maurya times.[24]

While the second phase of the NBP is marked by the profuse use of NBP (especially around 300 B.C.) more coins, plenty of terracottas, more iron tools, burnt brick structures, occasional tiles, and ring-wells, the first phase is marked by the absence of burnt brick structures and ringwells and shows less of NBP sherds, coins, terracottas and iron tools, although semi-precious stone beads, glass and sometime ivory objects are also found in this phase. But we have to appreciate the limitations of archaeological work undertaken in the moist alluvium of the middle Gangetic basin, in which rainfall ranges from 40 to 60 inches. In such a climate, unless the soil happens to be sandy, the chances of survival of wattle-daub, bamboo

or mud structures would be poorer. This would also apply to timber structures. Such a type of soil would prove very corrosive for iron artifacts, which have been found in larger numbers in the western Gangetic basin although south Bihar happens to be the richest iron mining area. Moisture is a deadly enemy, especially of wrought iron objects. Even iron objects from Kauśāmbī, where the soil is not so moist, have been found to be highly corroded on examination.[25] We have to be very circumspect in drawing inferences when archaeological evidence does not correspond to literary evidence.

Certain hypotheses made about the dating and cause of change in the material and social life of the people of Kosala and Magadha stress the crucial role of iron implements in opening the thickly vegetation covered areas of the middle Gangetic basin from about 600 B.C. onwards to settlement and cultivation.[26] The problem of the second urbanization has also been linked with this process,[27] and the social outlook of early Buddhism has been explained in terms of the needs of iron-ploughshare based agriculture and the problems created by moneylending and urbanization.[28] Serious doubts have however been expressed about the role attributed to iron artifacts in eastern UP and Bihar in the age of the Buddha.[29] It is suggested that clearance could have been carried out with the help of fire. But even when trees are burnt with fire there remains the problem of removing the burnt stumps. In the middle Gangetic basin trees strike roots and cultivation becomes difficult unless those roots are cleared with the iron axe and spade. It is obvious that the scale of NBP settlements that we have in this region would require a fairly large population and many stone implements to accomplish this job. It is further argued that the wooden ploughshare may have been used in cultivation.[30] It is true that in the upper Gangetic basin such shares were used in later Vedic times, and those made of the *cīra* tree are used even now in some parts in the Kinnaur and Garhwal areas where the soil is soft. Wooden shares were also used in the *doab* between the Beas and Sutlej till 1940 or so.[31] But for the type of the hard clayey soil we generally have in the alluvial tracts of the middle Gangetic basin such shares are not effective. In parts of Patna district the soil locally known as the *kewāl* is so hard that once it dries up even iron shares are sometimes found inadequate to break it. At best wooden shares may have been used in patches of soft and sandy soil in eastern UP and Bihar, and such areas would be necessarily smaller in size. Because a few hoes have been found in some urban sites hoe-cultivation has been considered to be the more universal method of agricultural operation.[32] But such hoes may have been parts of household tools in towns, and in any case circumstantial

evidence of largescale NBP settlements in the alluvial tracts runs counter to this hypothesis.

The early Pāli texts of pre-Maurya times do refer to the use of iron for purposes other than war. The term *ayanaṅgala* or iron ploughshare is mentioned in a later Pāli text.[33] In the prose introduction to a *sutta* of the *Suttanipāta* we hear of a *phāla* or share being heated the whole day and making a sound when placed in water.[34] However, the hammer (*ayokuṭa*) is known to the verse portion of the *Suttanipāta*.[35] An early Pāli text[36] and Pāṇini[37] speak of *ayoghana* which was either a hammer or an anvil. Iron ploughshares called *ayovikāra kuśī* appears in Pāṇini.[38] Iron ploughshares also seem to have been necessary for growing sugarcane, which is attested as a common crop by early Pāli texts,[39] and Pāṇini speaks of a forest of wild sugarcane.[40] Sugarcane plantation requires deep ploughing. Even at present in the hard soil of Jaunpur district it is necessary to plough four times and in the harder soil of Patna district six times in order to prepare the land for the plantation of sugarcane.[41]

If we go by a later saying prevalent in Magahī dialect it would appear that deep and continuous ploughings were necessary for producing mustard, paddy seedlings and for planting sugarcane. According to it the first requires one hundred ploughings, the second fifty, and the third twenty-five[42]; this is obviously exaggerated. But even now these products require a soil which is reduced to fine, small particles of dust through deep and constant ploughing followed by harrowing. Since mustard, sugarcane and transplanted paddy are frequently mentioned in early Pāli texts, the inference about the frequent use of the iron share for producing them cannot be easily brushed aside.

The use of the iron ploughshare was supplemented by that of the hoe/spade or *kuddāla*, and a person who earned his livelihood with the help of this tool was called *kauddālika*.[43]

Leaving aside the Sulvasūtras no literature of pre-Maurya times deals with technology but there is no dearth of references to iron tools meant for crafts and agriculture in pre-Maurya texts. Such references, because they are casual and illustrative, should be considered more reliable. The difficulty however is created by the fact that literary references are not matched by archaeological discoveries of tools belonging to the age of the Buddha. In eastern UP and Bihar there is evidence for the use of iron from *c.* 700 B.C. onwards but so far no ploughshare has been discovered, and iron tools for agriculture are not found in good numbers. Nevertheless this can be explained by ecological reasons. The acid, humid, warm alluvial soil of eastern UP and Bihar has proved to be highly corrosive. Moist and, in many cases, acid soil, is found in the middle

Gangetic basin, particularly in the north Bihar flood plains. It is good for rice production[44] but bad for the preservation of iron artifacts. The soil is therefore suitable for the cultivator but unrewarding for the academic digger. Iron exposed to ordinary moist air is quickly corroded to a reddish-brown dust.[45] The presence of water is essential for rusting, and according to some experiments carbon dioxide or acidity is also necessary.[46] It may be noted that, in the low lying tracts of the lower Gangetic plains of eastern UP, the water table is very high during the monsoons, and is about 3 metres during the summer season.[47] Water-logging is common in several parts of the middle Gangetic plains.[48] We further learn that the soils belonging to the alluvium found south of the Ganges in Bihar are acidic in the southernmost parts.[49] Naturally the excavation reports of Sonpur in Gaya,[50] Vaishali in north Bihar,[51] and Prahladpur in Banaras[52] speak of the heavily rusted iron tools, many of which have become unrecognizable. The nature of the soil has led to greater oxidization of the tools. The climatic difference can be appreciated if we bear in mind that in several sites such as Atranjikhera in western UP and Ujjain in Malwa implements are better preserved because the soil is not so warm and humid. In Ujjain the soil of the Malwa plateau is comparatively drier. It has been pointed out that more agricultural tools of the NBP phase have been found in Taxila than in other sites in northern India,[53] but it has to be added that this preservation is due to the dry soil of that area.

Ancient technology did not contribute much to the survival of tools in a moist type of soil. Examinations made so far show that wrought iron tools were used in the NBP phase.[54] One bent nail from Rajghat, ascribed to the period 600-400 B.C. approximates to steel,[55] but this may have been accidental. Later when steel came into use it proved more lasting and serviceable. But in 600-300 B.C. most iron objects belonged to the wrought category. Even till recent times in Bihar ploughshares were made of semi-steel; after a few years' use they get heavily rusted.

Finally we may take into account the type of the sites that have been dug so far. Administrative/commercial/craft/or religious centres such as Campā, Vaiśālī, Rajgir, Varanasi (Rajghat), Kauśāmbī, Sringaverpur, Śrāvastī, etc., have been excavated so far. Naturally they are not the right places for looking for ploughshares and other agricultural tools although hoes have been found in some pre-Maurya layers at some of these sites. For discovering agricultural tools the archaeology of rural settlements has to be developed. Even in the case of urban sites horizontal excavations may expose smithies and workshops.

The comparative paucity of agricultural tools in the middle Gangetic basin in archaeological excavations does not necessarily mean that these were not used in pre-300 B.C. times or in the age of the Buddha. Such tools belonging to the same period or even a little earlier have been found in the upper Gangetic plains and in the Sutlej basin. Reference may be made to the discovery of a ploughshare at Ropar in Ambala district in the Gaṅgā-Sutlej basin, lying below a ringwell at a depth of 14 ft 9 inches under surface. It measures 15½ inches long, is 1.1 inch broad in the middle, and 0.9 inch wide towards the end.[56] Again, a ploughshare belonging to the PGW phase, possibly of around 500 B.C., has been found at Jakhera in Etah district in western UP.[57] This probably belongs to the same period as covered by the NBP phase in the middle Gangetic basin. If iron ploughshares were being used in the age of the Buddha in the areas in which even wooden ploughshares could work, it would be wrong to think that they were not known in the areas where the alluvium was hard to break. An iron share belonging to the mid-NBP period has been found in Kauśāmbī. Two socketed iron axes, both of the early NBP phase, have also been found in Kauśāmbī. One of them is of a large size, but it is heavily corroded.[58] At least we have an axe from Sonpur which may be assigned to *c.* 400 B.C.[59] As regards the ploughshare, it has been reported in association with the NBP phase at Raghuasoi in Vaishali district.[60] Iron slags and objects recovered from Rajghat deserve our special attention. Altogether 100 slags and artifacts belong to the early phase of period II, which is stratigraphically placed between 600 and 400 B.C.[61] This list includes two axes, sickles, chisels, 35 nails, etc.[62] Iron artifacts show a preponderence of objects used for hunting, agriculture, artisanal activities and household purposes.[63] It is stated that 'unprecedented growth' of the crafts, industries and some occupations were initiated in the earlier phase,[64] which evidently refers to 600-400 B.C. or the earlier part of the NBP phase. We would like to suggest that this 'unprecedented growth' was not without its connection with the use of iron tools. A few iron artifacts[65] appear in the pre-NBP horizon in association with black-and-red pottery attributed to the chalcolithic people. But the pre-NBP culture at Rajghat had a short life, and in contrast to that phase the number of iron tools in the NBP phase is so large that it amounts to a qualitative change so far as their use for production is concerned.[66]

The hypothesis suggesting the use of agricultural tools in the age of the Buddha is strengthened by the fact that by this time people had come to utilize the richest iron mines found in Singhbhum. The iron-ore relationship established in the case of the NBP tools

discovered from Rajghat suggests that the tools were made of the Singhbhum and Mayurbhanj ores.[67] It is evident that wrought iron technology was known to the people. The use of the term *bhaṣṭrā* in Pāṇini[68] and *bhastā*[69] in early Pāli texts suggests that bellows made of leather were in use in pre-Maurya times. Once the twin advantages of the knowledge of the richest ores of iron and of manufacturing wrought and semi-steel iron became available to the people of the middle Gangetic basin they were certainly in a much better position than the PGW phase people to use iron.

Indirect evidence for the use of iron tools can be inferred from the use of punchmarked silver coins which are as early as 500 B.C. Evidently long sheets of silver were prepared and cut into rectangular or roundish bits with iron tools. The use of iron tools can also be inferred from the large-scale wooden structures, found in the form of palisades in Maurya times. It is evident that such structures must have started a little earlier before the time of Megasthenes and could not have been possible without the use of iron axes, adzes, saws, chisels, etc. Some of these tools are mentioned in early Pāli texts.[70]

The spread of plough cultivation in the middle Gangetic basin is indicated also by the use of the Pāli term *naṅgala* (plough) in several forms.[71] The *Suttanipāta* mentions a village called Icchānaṅgala in Magadha.[72] However Pāṇini uses the term *hala* for plough and speaks of the field being cultivated twice or thrice.[73] Elaborate details of agricultural operations appear in Pāṇini,[74] and various types of sacrifices for promoting agriculture and husbandry are provided in the Gṛhyasūtras.[75] All told, compared with the later Vedic age, the period of the Buddha seems to be one of burgeoning agriculture.

What further distinguishes the forces of production in the age of the Buddha from those in later Vedic times is the beginning of paddy transplantation. Although rice was known in the country as early as 5000 B.C.[76] not to speak of its archaeological discovery in the second millennium, and in the first half of the first millennium B.C., literary evidence suggests the practice of transplantation of paddy since about 500 B.C. The term for planting saplings from paddy seeds is mentioned first in early Pāli texts.[77] We hear of *ropana* and *ropeti*. The distinction between Vedic *vrīhi* (the term for rice) being a rainy season crop and the post-Vedic *śāli* being a winter crop has been rightly underlined.[78] It is correctly suggested that *vrīhi* was grown without transplanting, and *śāli* was grown by means of transplantation.[79] As the art of producing wet rice spread to Assam the Assamese term *xali* (derived from *śāli*) came to mean a principal variety of transplanted rice.[80] For producing such

paddy it became necessary to plough the hard alluvial soil and prepare the ground for planting. Such plots of land therefore came to be known as *kedāra*, from which the Hindi term *keyarī* is derived. The importance of preparing plots for planting became so great that stories came to be connected with it, and at a later stage we have a Buddhist birth story called the *Śāli Kedāra Jātaka*.

Apart from the term *ropeti*, which indicates transplantation and has its counterpart in *ropani* prevalent in Indo-Aryan dialects of Bihar and eastern UP and of the other parts north-eastern India. we also come across the Pāli expression *bījani patiṭṭhāpeti*[81], which apparently means planting seedlings. The term *patiṭṭhāpeti* may be rendered as planting[82]; *biṭhaunī* prevalent for the same process in certain parts of north Bihar may be considered its modern counterpart. Of course this would be derived from *vi* + *sthā*, but this would not be much different from *prati* + *sthā*.

The qualities of a good field enumerated by the writers of the early Pāli canonical texts clearly suggest that they were acquainted with the practice of wet paddy production. For instance, a field meant for paddy plantation must have provisions for water courses, for the inlet and outlet of water and for the retention of water through the mechanism of dykes. All these are considered to be the qualities of a good field.[83] In this context the Pāli term *mariyād*[84] is used for dyke for which *meḍha* is the common word in Magahī and other dialects associated with rice-producing or even non-rice producing areas because of the extension of the sense in different contexts. In some Biharī Aryan dialects the term *birār* probably the same as *bījāgara* is used for paddy seedbed as well as for paddy seedlings. This term may be derived from the Pāli *vi* + *rūḷh*,[85] which means 'to sprout,' although in early Pāli texts the approximating term, if used in the context of wet paddy production, has not been traced by us; the same is true of Magahī *morī* (paddy seedlings) and *morīyār* (paddy seedbed); the first can be derived from *mūla* and the second from *mūlāgāra*.

We may also draw some inferences from the detailed processes of cultivation described in an early Pāli canonical text. Herein the cultivator is represented as making the field well-cultivated (*sukaṭṭhaṃ*) and rendering the soil suitable (*sumattikaṃ*).[86] It may be noted that these operations including the breaking of the soil through the ploughshare and making it wet for receiving the paddy seedlings are followed although now a few more processes are introduced. We further learn from the same reference that the cultivator channelizes the water into the field and again takes it out,[87] apparently when the purpose is served. These operations also remind us of the care bestowed on paddy transplantation although they may apply

to the cultivation of other cereals. But the reference, which we have quoted elsewhere, read as a whole, leaves little doubt that the operations detailed in it relate to the wet paddy production. It seems that the idea of paddy transplantation was connected with that of sugar plantation although we do not know whether the one was derived from the other. At any rate the practice of plantation was widely known in the age of the Buddha when banana plantation also seems to have started.[88]

A Prākrit phrase *ukkhaya-nihae* or *ukkhāya-ṇihae*, literally 'uprooted and planted', is used in a Śvetāmbara Jain text called *Nāyādhammakahāo*[89] or *Jnātādharmakathā* to indicate paddy transplantation. This canonical text may have been first compiled around 300 B.C. if we accept H. Jacobi's views on the use of metres, the nature of contents, and the value of the Jain traditions.[90] M. Winternitz also thinks that the earliest portions of the Jain canon may belong to the period of the first disciples of Mahāvīra himself, or at the latest to the second century after Mahāvīra's death—the period of the Maurya Chandragupta.[91] According to him the Jain tradition coincides 'exactly with the Buddhist tradition in many remarkable details.'[92] He adds that the title of the sixth *aṅga* of the Digambaras reads *Jnatṛ-Dharma-Kathāṅga*.[93] It is therefore one of the few canonical texts common to both the Śvetāmbaras and Digambaras.[94] In the opinion of Winternitz those texts which are shared by both sects represent the earliest portions of the sacred writings of the Jains.[95] Further, the contents of the *Jñātādharmakathā* are closely related to those of the *Uttarādhyayana Sūtra* which is thought to be one of the earliest Jain texts.[96] In the seventh and eighth chapters of the *Jñātādharmakathā* the phrase *devāṇuppiyā* (dear to the gods) is used repeatedly and recalls to our mind the phrase *devānaṃ priya* of Aśokan inscriptions.[97] Hence this Jain text may have existed before the third century B.C.

The process of paddy transplantation is vividly described in the *Jñātādharmakathā*. We learn that agricultural labourers (*kula-gharapurise*)[98] attached to the household of Rohiṇī,[99] one of the four daughters-in-law of a rich merchant called Dhana, sow five unbroken paddy grains on a small well-prepared bed.[100] Twice and three times they transplant the seedlings (*doccaṃ pi taccaṃ pi ukkhaya-nihae karenti*).[101] It may be added that the practice of removing the transplanted paddy plants from the thickly growing fields and replanting them in another field is prevalent in several districts of north Bihar.[102] It is practised in rainier areas covered with sheets of water. As the water recedes and the land becomes plantable, paddy plants from the congested portions of the first transplantation are

shows familiarity with Aṅga, Magadha and Mithilā. Rajagṛha is the scene of the story referring to paddy transplantation, but the text also mentions Campā and Mithilā. However uprooting the twice transplanted plants and replanting them a third time is not so common. A second transplantation gives a higher yield, and a third still higher. Even if the evidence from the *Jñātādharmakathā* is treated as a supplementary corroboration because of the lack of certainty about its pre-Maurya date,[103] the cumulative evidence drawn from various other sources leaves little doubt about the prevalence of paddy transplantation in the middle Gangetic zone in the age of the Buddha. Barley continued to be the other principal crop besides rice, and *godhuma* or wheat was still not an important crop. Barley, rice and sesamum were considered the purest cereals for sacrificial and religious purposes, although mustard and various types of lentils are known.[104]

Agriculture in general had become so important that special attention was given to the types of fields in early Buddhist teachings. One *sutta* classifies the field as (i) best, (ii) middling, and (iii) inferior, forested and infertile. The monks are compared to the best field, the lay devotees to the middling, and the śramaṇas, brāhmaṇas and ascetics of other religious persuasions to the field of bad quality.[105] The *Khetta Sutta*[106] speaks of eight types of fields which do not yield much. These are undulating, rocky and pebbly, saltish, without depth of tilth, without water outlet, without inlet, with no water-courses and without dykes. In such fields sowing seeds is a kind of waste. On the other hand opposite qualities are found in eight good types of fields in which seeds fructify on a large scale.[107] The śramaṇas and brāhmaṇas who follow false doctrines, have wrong sources of livelihood, etc., are compared to the bad eight types, and those who observe the right type of doctrines, adopt right sources of livelihood, etc., are compared to the good eight types of fields.

The literary texts of the period show a knowledge of irrigation,[108] and also the practice of keeping the land fallow.[109] Further, the period came to have an agricultural calendar based on six seasons and 27 *nakṣatras* or constellations, which, though already known to later Vedic texts, became well established in the Gṛhyasūtras, and different seasons and *nakṣatras* were prescribed for sowing different crops and performing agricultural festivals.[110]

This period is also marked by the utilization of new plants and fruit trees. Mango groves are frequently mentioned in early Pāli texts,[111] and so are the *śāla* (Vatica Robusta)[112] groves. The knowledge of the use of the *jambu* (Eugenia Jambolana),[113] *madhūka* (Bassia Latifolia)[114] and *palāśa* (Butea Frondosa)[115] must have proved

economically useful. Supplemented by various types of handicrafts, mentioned in Pāṇini and early Pāli texts, all the developments add up to a kind of veritable demographic revolution in the middle Gangetic basin in pre-Maurya times. It is argued that before 300 B.C. no visible change in the material life of the people can be detected on the basis of archaeological excavations.[116] In a way it is correct because till *c.* 300 B.C. we do not find burnt bricks, ring wells, profuse NBP sherds, numerous terracottas and coins, and too many iron agricultural tools. But what is more crucial for the understanding of the material life of the age of the Buddha is the very cropping up of a large number of settlements in the alluvium belt of the middle Gangetic basin with the beginning of the NBP phase. Although at some excavated sites such as Kauśāmbī, Sringaverpur, Rajghat, Mason, Prahladpur, Chirand, Vaiśālī, Sonpur, etc., they are preceded by a horizon of culture represented by the black-and-red or black slipped ware, in most cases this horizon is very thin, and the real settlement starts with the NBP phase around 500 B.C. or so. In Chirand however we have three metres of black and red ware habitational deposits in several trenches. The end of this phase at this site is followed by the NBP phase, which starts with ring wells and some brick structures in several trenches. This phenomenon might suggest the end of the black-and-red ware phase around 300 B.C. when the NBP phase began.[117]

In several cases such as Rajghat, Prahladpur, Chirand and Sonpur the black-and-red ware phase is associated with iron. At any rate it is clear that before the use of iron in the alluvial tracts of the middle Gaṅgā, only such places as were located either on the bank or on the confluence of rivers (viz., Chirand and Chechar near the junction of the Gaṅgā and Gandak in north Bihar) had a few chalcolithic settlements, which are usually found in areas nearer the sources of stones.

Sixty per cent of the potsherds recovered from Chirand are believed to be similar to those found at various sites in Basti, and the ceramic ware from both Sonpur and Chirand is said to have a typological affinity with that from eastern UP. The resemblance between the Sonpur and the Chirand pottery is close. In between come the surface finds from Maner which is situated south of the Gaṅgā just opposite Chirand. Surface finds of the ware are also reported from Manjhi near Siwan. These places are not far away from Vaiśālī where a very thin horizon of black-and-red ware precedes NBP,[118] although at a few sites grey ware and Painted Grey Ware also precede the NBP phase in the middle Gangetic basin. Clearly some people using black-and-red pottery lived even in the alluvial area of the middle Gangetic basin before *c.* 700 B.C. Such

settlements were obviously sparse and sporadic and were possibly the northernmost outposts of the neolithic-chalcolithic people living in south Bihar or in the Vindhyas. At any rate in the alluvial tracts these settlements did not last for more than a hundred years or so. Without the use of iron tools and implements large-scale clearings and foundation of large territorial settlements in the Gaṅgā valley would not be possible, and even till late medieval times the persistence of old names such as Arrah from Araṇya, Saran from Naimiṣāraṇya and Champaran from Campāraṇya would indicate that clearing and colonization of the Gaṅgā valley was carried out in several stages. Some indication of clearance and expansion of the new rural economy in Majjhimadesa or eastern UP and Bihar can be found in early Pāli canonical texts. Almost in every city visited by the Buddha we find a *vana* rendered by several Pāli scholars as grove, but the term should mean 'forest' which was now only a portion of the larger jungle left uncleared. Most cities associated with early Buddhism are named after some plant. Kauśāmbī, Kuśīnagara, Kuśāgrapura (old name for Rajgir also called originally Girivrajapura [*vraja*=pasture ground]) all had something to do with the plentiful growth of *kuśa* grass. Pāṭaligrāma, later called Pāṭaliputra, was connected with the *pāṭali* tree, and Campā with the *campaka* tree. Kajaṅgala, a township, which lay near Rajmahal and formed the eastern boundary of Majjhimadesa,[120] denotes a place once forested. Vaiśālī is traditionally considered to have been established by king Viśāla, but it may also owe its name to an extensive existence of *śāla* trees, which had to be cleared before settlement. In fact the form Śālagrāma is common as a place name and is associated with the sacred Vaiṣṇavite stone found lying on the Gandak bank in Sonpur. We may further note that forests of *śāla* trees (*śālavana*)[121] are frequently mentioned in early Pāli canonical texts. Kapilavastu, the capital of the Śākyas, may have owed its origin to the presence of monkeys, naturally living in the forests, and in any case Lumbinivana or the forest of Lumbini was the birthplace of Gautama Buddha.

A clearer inference can be drawn from the place name Thūṇa, a village located in Kosala.[122] The name means the stump of a tree, and apparently the place derived its name from the presence of a few stumps at the time of the foundation of this settlement. A similar explanation can be given for the village name Thūṇa, probably situated in Videha,[123] which covered a good portion of the Nepal terai and north Bihar. The same thing can be said about a Magadha village Khāṇumata,[124] which suggests clearance in the form of the survival of stumps. We may note that the burning of forests, evidently for clearance, occurs in many early Pāli texts, and

the term used is *jhāmakhāṇu*.[125] We also learn of a field which was evidently made fit for cultivation by burning its earlier vegetation. It is called *jhāmakhetta*, which is wrongly translated as a charcoal-burner's field.[126] The process of burning is suggested, and that of cutting and digging out the roots is clearly indicated by the frequent use of a simile in relation to the palm trees, which so commonly cover the landscape of eastern UP and Bihar; even now, when practically no jungle is left in Patna and Gaya districts, the palm trees stand out prominently on the landscape. The phrase is '*pahīn-ucchinna-mūla tālāvatthukata anabhāvaṃkata*'. In the context of faults, passions, etc., the phrase means 'given up, with roots cut out, like a palm with its base destroyed, rendered unable to sprout again'. The simile is frequently used in the *Aṅguttara Nikāya* but occurs in other early texts also, with slight variations.[127] It was necessary to cut the palm trees for cultivation and various domestic purposes. The name of the village Ekanāḷā, situated to the south of Rajgir,[128] indicates that at one time it was full of reeds which had to be removed before settlement. Several habitations mentioned in early Pāli texts are named after bamboo forests or thickets[129] which probably continued to exist even after clearance, and some of them seem to be connected with the survival of *bel* trees.[130]

We would not however like to create the impression that the whole country was brought under the plough and was settled in pre-Maurya times. The early Pāli texts contain numerous references to forests, and especially four great forests or *mahā-araññas*[131]—Daṇḍaka, Kaliṅga, Mejjha and Mātaṅga—are mentioned in them.

The advent of the people using black-and-red ware and to some extent grey ware and PGW apparently marked the first stage, followed by the advance of a far more technologically endowed people who used NBP. The tools which enabled the users of black-and-red pottery in north-eastern India to earn their means of subsistence were by and large neolithic implements and microliths, which have been discovered in Pandurajar Dhibi and belong to the first period preceding 1000 B.C. Stone tools, and especially microliths, also dominate the scene in the chalcolithic cultures of the Vindhyan plateau in the vicinity of Allahabad.[132] In the second period, the beginnings of which have been carbon-dated as 1000 B.C., some copper has been found at Pandurajar Dhibi, but it is negligible. A copper bangle has been found in Oriup,[133] and some copper objects have been also discovered at Sonpur. The stratigraphical discovery of copper objects in north-eastern India would suggest that they were used along with microliths in this part of the country before the advent of the use of iron. The absence of the bronze age in north-eastern India is clear enough, but the few copper

objects that have been discovered in the chalcolithic context do not allow us to postulate a full-fledged copper age either. In spite of the availability of copper mines in south Bihar excavations conducted so far have exposed very few copper objects. Although at some places such as Sonpur in Gaya and Rajghat in Banaras we find some evidence of iron in association with black-and-red ware in the pre-NBP phase,[134] generally no iron is found in the chalcolithic context in which we get copper.[135] It appears that the people who used the black-and-red pottery in the pre-NBP phase had a chalcolithic culture, from which a transition to the iron age culture took place.

With the microliths and stone tools that they possessed the users of black-and-red pottery could not carry on any advanced cultivation. Possibly they used digging sticks and hoes for cultivation, as is the case with pre-Aryan, Austric peoples living in the Chotanagpur plateau even now. But certainly the users of black-and-red pottery produced rice. In eastern India rice was undoubtedly produced before 1200 B.C.; in the first occupational period of Pandurajar Dhibi, we get rice-husks in the core of pottery. In the second period, carbon-dated around 1000 B.C. we get rice grains. It has been claimed that cultivated rice appeared in the Vindhyan region near Allahabad in the neolithic phase around 5000 B.C.[136] In any case about 700 B.C. we get charred rice grains from Sonpur in Gaya. We do not know whether the cultivators used transplantation, but there is no doubt about the use of rice in this part of the country before its large-scale colonization since *c.* 600 B.C. In eastern Bihar and Bengal the diet of rice was supplemented by fish, as can be gathered from the discovery of bone fishing hooks in Oriup and a copper fishing hook at Pandurajar Dhibi. It was certainly a local practice, having nothing to do with the people who came from north-western India.

The rice-producing economy was supplemented by domestication and hunting of *nilgai*, pigs and deer whose remains have been found at Pandurajar Dhibi. These animals provided sources of food, as they do even now to the aborigines living in this area.

A few megalithic sites have been found in the Chakia subdivision of Varanasi district and also at Kotia on the Belan river. These sites have more or less the same elements of material culture that are typical of the chalcolithic people.[137] But the megalithic graves at Kotia contain several iron emplements such as the sickle, adze, arrowhead, etc.[138] However the carbon-dating of one of the Kotia graves comes to about the third century B.C.[139]

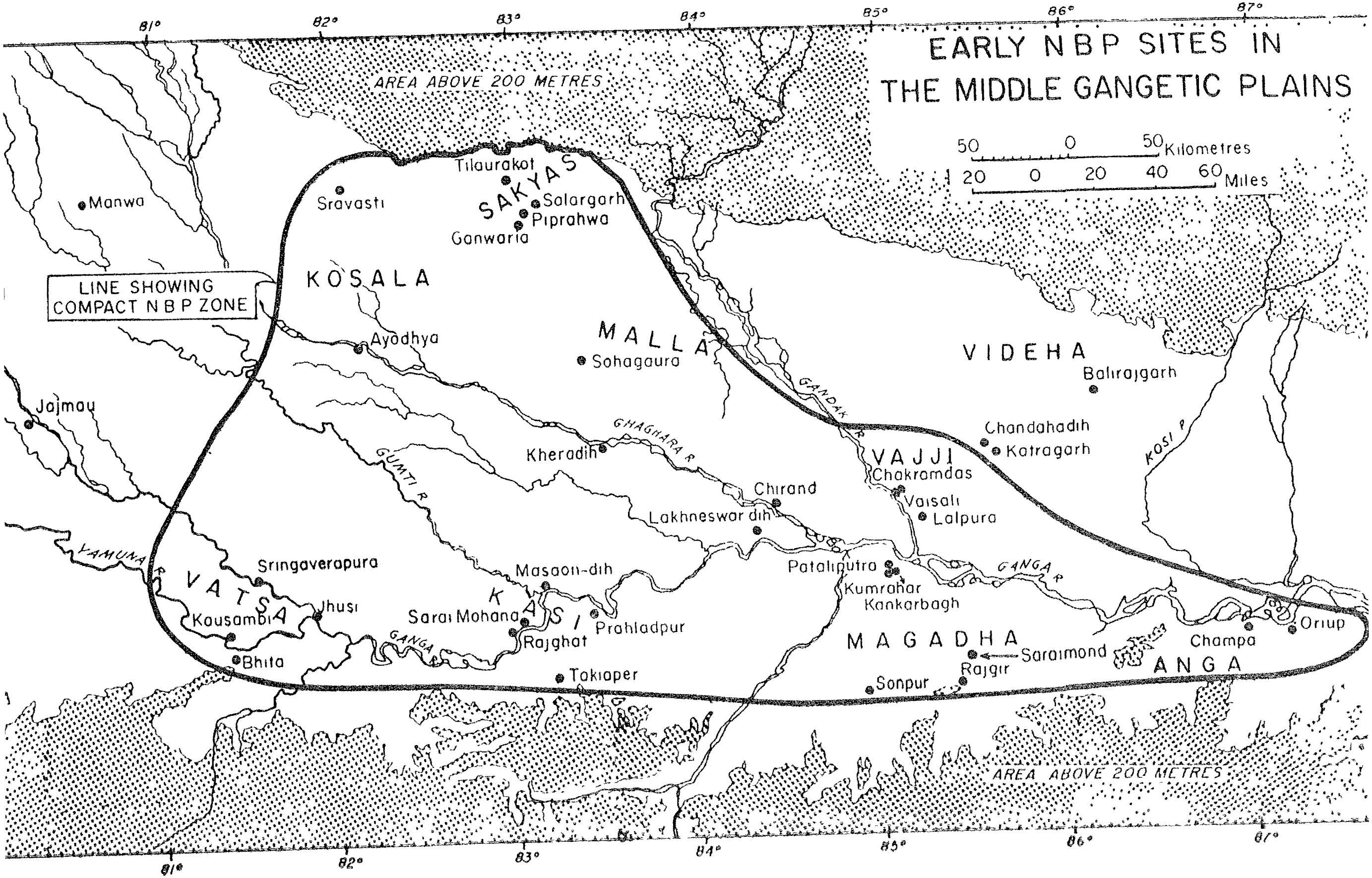
Certain elements of the culture of the users of the black-and-red are shared by the different sites, Pandurajar Dhibi, Oriup, Sonpur and Chirand and probably those in eastern UP. These are a plain

and painted black-and-red ware, microliths and the cultivation of rice. Rice is common to Pandurajar Dhibi, Mahisadal, and Sonpur, but microliths in association with black-and-red ware have been reported from all such sites including Maner, Manjhi and Oriup. Vaiśālī, however, has not yielded any microliths. The use of copper does not seem to be a strong element in any of these black-and-red ware cultures, which seem to have largely flourished in the pre-metallic stage. Settlements lying in the alluvial tracts of the Gaṅgā basin may have been founded by some adventurous elements from the Vindhyas in both eastern UP and Bihar. If we consider the source of microliths and bear in mind the difficulty involved in clearing thick forests with stone implements on the banks of the Gaṅgā in Bihar and Bengal, it would appear that the users of the black-and-red ware lived on the periphery of the Chotanagpur plateau, some 50 to 60 miles south of the Gaṅgā. From there they moved to the bank of the river whose changing courses destroyed vegetation and made the land fit for settlement. It further appears that in or near the hilly areas the chalcolithic settlements had generally a long life from about 1500 B.C. to 800 B.C., but in the alluvium the black-and-red horizon is generally thin, and in the pre-NBP phase it may have continued for less than a couple of centuries. However, as shown earlier, the case of Chirand was different.

Is it possible to identify the users of the black-and-red ware in eastern India on the basis of literary texts? Later Vedic texts, compiled in western UP, speak of a Magadhan people called the Vrātyas. They are described in the *Atharva Veda*[140] and *Pañcaviṃśa Brāhmaṇa*.[141] The Vrātya chief initiated into brāhmaṇism is described as equipped with headgear and sandals, but the *Pañcaviṃśa Brāhmaṇa* denounces the uninitiated Vrātyas in general as inferior (*hīna*) and states that they neither trade nor plough. This apparently refers to the material conditions in the pre-iron age in eastern India which neither practised plough cultivation nor produced enough to carry on trade. Both these phenomena appear in the middle Gangetic basin in post-Vedic times.

Although historical archaeology is supposed to begin with the advent of North Black Polished Ware or NBP in the upper and middle Gangetic basin as well as in the adjoining areas of Madhya Pradesh and also in Malwa, no planned and systematic exploration of NBP sites has been undertaken so far, as has been the case with the Harrappan and PGW sites. On the basis of printed reports available up to 1977–78 we can count in India about 466 sites where NBP sherds have been found.[142] It seems that 22 NBP sites discovered in the Chandauli and Chakia tehsils of Varanasi district in 1962–63[143]

EARLY N B P SITES IN THE MIDDLE GANGETIC PLAINS



did not find place in *Indian Archaeology: A Review*. To these may be added another 96 sites known from various reports.[144] All this brings the total to about 584. The reported sites from UP and Bihar, mostly explored, number nearly 450.[145] In these the share of Bihar is less than a hundred. Of course on the basis of personal knowledge one could say that NBP sherds are found in Bihar in numerous villages. We learn from local enquiries that in Bihar the Vaiśālī, Rajgir and north Begusarai belts, and the Campā area in Bhagalpur contain many village sites in which NBP sherds have been found. If casual exploration can reveal about 450 sites in the plains of Bihar and UP systematic efforts to pick up sherds of NBP and associate wares in the alluvial tracts of UP and Bihar, especially in the middle Gangetic plains, might push up that figure to 2000 or so. Of course even then only a stratigraphical sequence established by digging can explain the demographic significance of such sites at a particular point of time. But if we go by the radiocarbon dates from Kauśāmbī, Rajghat, Piprahwara and Sohgaura in UP, all these dates fall within the bracket of 500 B.C. and 400 B.C. and their calibrated dates might go up to 600 B.C. Hence we find a consistent picture in an almost contiguous area in eastern UP. And it is most likely that the spread of the NBP in eastern UP and Bihar indicated a spurt in agrarian settlements in the sixth century B.C.

What is important further is the fact that most sites known so far are found more or less in a compact area, i.e., the middle Gangetic zone or its periphery, which shot into political and economic prominence during the age of the Buddha. NBP finds dating before 300 B.C. have been reported from several sites in the upper Gangetic basin including Ropar [146] and Ahicchatrā.[147] More or less contemporary deposits are known from Ujjain[148] and Besnagar[149] in Malwa. This would presuppose that the upper Gangetic basin and the Malwa plateau enjoyed the material advantages associated with the culture of the NBP phase. However the point has to be stressed that whatever and wherever be the origins of the NBP, its users made their home in the middle Gangetic plains in large numbers. In spite of sixth-fifth centuries B.C. dates for NBP deposits from some upper Gangetic sites, NBP finds are far more profuse and widespread in eastern UP and Bihar than anywhere else. For the first time they suggest numerous agricultural settlements and the formation of many villages mentioned in the early Pāli texts. There is no doubt that in the age of the Buddha, or may be a little earlier, we have archaeological evidence for settlements on a substantial scale in the middle Gangetic basin. This should certainly be regarded as a crucial demographic development made possible through the use of iron tools and rice transplantation.

The NBP finds also suggest some significant social developments. A spatial and temporal study of the spread of the NBP and associate finds would indicate that not only in the middle Gangetic but also in the upper Gangetic plains and the adjoining areas, between 600 and 400 B.C. a class of people used *de luxe* pottery and semi-precious stones. This emergent class may have played an important role in the appropriation of the resources and surplus and also in the formation of the social order and the state. Most of the sixteen great kingdoms had a material background associated with the NBP culture. We may particularly mention the states of the Aṅgas with the capital at Campā, the Magadhas with the capital first at Rajagṛha and later at Pāṭaliputra, the Kāsis with the capital at Varanasi, the Kosalas with the capital at Śrāvastī, the Vatsas or Vaṃśas with the capital at Kauśāmbī, the Śūrasenas with the capital at Mathura, the Avantis with the capital at Ujjain. All these capital sites have been excavated, and in most cases the carbon-14 dates of the NBP deposits fall between *c.* 550 and 400 B.C. The c-14 date of the NBP from Vaiśālī, the capital of the Vajjis, who were not included in the sixteen *mahājanapadas*, is not available, but the pottery seems to have started in the sixth century B.C. The NBP is therefore a good index of the process of both agrarian expansion and class differentiation.

Of course the structures in the pre-300 B.C. phase found in eastern UP and Bihar are not impressive. But the reasons for the poor survivals of pre-burnt brick structures are ecological and, may be, we need more sophisticated archaeological skills and methods to recover them. But a society which used *de luxe* ware called NBP, and a good many iron artifacts for war and production could not do without houses, however modest they may have been. The absence of burnt brick structures therefore does not necessarily mean the absence of towns; on the contrary literary texts suggest their beginnings.

Some Sanskritists notice the presence of urbanism in the late Vedic period.[150] They may well be right if that phase is placed in the middle of the first millennium B.C. but to take it back by a couple of centuries or more may not be supported by archaeology. Similarly, we cannot assign the beginnings of urbanism to *c.* 300 B.C., on the basis of fire-baked brick structures. The conjunction of literary and archaeological material indicates the advent of towns in the middle Gangetic plains around the sixth century B.C. To begin with, people in towns lived in wooden houses. The use of wood at Pāṭaliputra for this purpose is well attested.[151] Wooden stakes set up for the defence of this town or as a measure against flood and invasion on the south carry a radiocarbon date

of about 600 B.C.[152] In Rajghat in Varanasi, wooden planks have been discovered, and apparently wooden structures raised on wooden platforms preceded mud structures.[153] The present practice of timber houses put up on *machāns* (wooden platforms raised on wooden poles) in the terai plains of Nepal just on the border of Bihar, or in some countries of South East Asia, could be considered to be archaic. It is obvious that wooden buildings on a large scale could not have been possible without considerable use of iron implements. But neither this timber work nor the tools that made it have survived on any scale. Obviously only such wood as teak, *sisso*, *śālā*[154] have survived. Probably because houses were made of *śālā*[155], the term *śālā* came to be used for them.

There is little doubt that mud houses were built in the age of the Buddha in the towns of the middle Gangetic plains. This is affirmed by the nature of structures in the early levels of the NBP phase at several places. A massive clay embankment of around 500 B.C. has been found at Rajghat.[156] The mud *stūpa* of Vaiśālī is well known. A mud platform indicating a kitchen and some trace of a mud wall have been found at Sonpur.[157] Mud plaster with reed impressions found in several pits in Rajghat indicate reed walls plastered with mud.[158] We also find a thick floor of burnt clay with two post-holes. But the early levels of the NBP phase are associated neither with bricks burnt in fire nor with those baked in the sun. Apparently it may be difficult to find traces of thatched, wooden, or mud houses, that characterized the earliest towns in the middle Gangetic plains.

The terms *nigama*, *nagara*, etc., are mentioned in early Pāli texts,[159] we also hear of *nagaraka*, *mahānagara* and *rājadhānī*.[160] The founding of fortified towns is attested by Pāṇini, who supplies considerable evidence relating to towns.[161] He specifically states that in the east the *grāma* was different from the *nagara*.[162] Further, we learn of the growing contradiction between town and village from the early Dharmasūtras, which state that a person staying in a town cannot attain salvation and breathe pure air.[163] It is possible to multiply references from pre-Maurya texts to prove the existence of crafts, trade and towns. Even archaeologically there seems to be some indication of trade in glass beads between Taxila and Śrāvastī.[164] All this should leave little doubt about the existence of towns in pre-Maurya times, although so far structural evidence has been either poor or neglected by archaeologists.

The heart of the matter is the social surplus produced by the peasants supplemented by cattle rearers and craftsmen in the age of the Buddha, which led to the formation of the state system in the form of the sixteen great kingdoms (*mahājanapadas*). Without a

strong rural base we can think of neither territorial states nor towns. The idea that princes enjoyed revenues from villages (*gāma*) and larger districts (*raṭṭha*) is clearly stated in the *Suttanipāta*.[165] But land, which had become the chief means of subsistence of people, seems to have been mostly in the possession of peasant families. The Vedic texts show concern for the possession of progeny (*prajā*) and cattle (*paśu*). But the *Suttanipāta* speaks of possessions as comprising sons (*putta*), fields (*khetta*) and property (*vatthu*).[166] These are considered to be matters of concern. For fixing individual possession of fields and assessing taxes the knowledge of measurement was necessary. Methods of calculating the areas of the circle, rectangle, etc., or the method of converting circles into squares, though prescribed in the religious context in the Śulvasūtras, may have arisen in response to the needs of field agriculture.

Although we have a few instances of grant of revenues of villages to some brāhmaṇas and seṭṭhis in Kosala and Magadha, by and large the early Pāli texts indicate a mode of production in which the peasants work their fields themselves. The number of the slaves (*dāsa*), hired labourers (*kammakara*), and messengers or porters (*pesanika*),[167] who are mentioned in pre-Maurya strata of the Pāli texts, seems to have been small. All the same it needs to be emphasized that certain peasant families had come to possess land at the cost of others, which they had to cultivate with the help of hired labourers, a category which does not exist in the Vedic texts. Labourers were paid in cash or in kind on daily basis,[168] for which it was necessary to measure their labour time. This may have been facilitated by the knowledge of *tithi* or the thirtieth part of a lunar month, of rather its extent over 27 days, which first appears in the Gṛhyasūtras.[169]

The new forces of production released sufficient surplus for the rise of a class-based and state-based society in which the religious and governing wings of the ruling class could collect taxes, tributes and tithes. This benefited not only princes and warriors but also priests and monks. The brāhmaṇical ideologues gave legal and religious stamp to the emerging system. They devised and elaborated a social mechanism through which the fruits of economic expansion in the age of the Buddha could be cornered by princes and priests to the exclusion of peasants and labourers. This unique social structure came to be known as the varṇa system. For the first time the functions of the four varṇas were defined, so that those who were concerned with the distribution and appropriation of the social surplus were categorized as higher varṇas and those who were engaged in primary production as lower varṇas.[170] As peasants, herders and traders the vaiśyas became the principal tax-

payers, and as slaves and hired labourers the śūdras became the primary suppliers of labour power.

We come across many landless people working for their wages, but land, cattle and labour, the chief means of subsistence and production, were not concentrated in the hands of a few people. These were not confined mainly to the two upper varṇas, although we hear of the slaves and labourers of the Śākya and Koliya chiefs working on the lands of their masters. According to the prevailing Dharmaśāstra view the members of the twice-born classes were given a general control over the śūdras, the chief source of labour supply, and consequently an important instrument of production. The twice-born needed labour not only for domestic work but also for managing their land and cattle. But land and cattle seem to have been largely under the possession of the vaiśyas, who were the principal taxpayers. Excepting the kṣatriya nobles and a few brāhmaṇa families, the members of the two upper varṇas as a whole did not directly control factors of production, and in this respect they did not enjoy the same advantages as the rich citizens of Greece and Rome did. But all the same they controlled labour power and organized the system of taxation and unilateral gifts in such a manner that the śūdras had to work as labourers, and the main body of the peasantry, the vaiśyas, had to husband their resources to meet the everpresent and everincreasing demands of the state and of the priestly and other religious people.

The rise of new forces of production in the age of the Buddha led to the need for promoting agriculture on the one hand and for overcoming the difficulties created by social inequalities on the other. The first determined the social outlook of Buddhism, and the second affected the social teachings of both Buddhism and Brāhmaṇism. The prevalent practice of cattle sacrifice in the garb of religion among the followers of the Vedic faith and as a continuation of the hunting stage among the non-Vedic tribals did not fit in with the need for preserving cattle for agriculture. The early Pāli texts adopt an anti-sacrifice stance, and the *Brāhmaṇadhammika Sutta* in the *Suttanipāta* clearly stresses the evil consequences of cattle slaughter and states that cattle have to be preserved because they confer food, beauty and happiness on the people; it is they who are responsible for the growth of plants.[171] It may be noted that with the beginning of the iron ploughshare-based agriculture the *Avesta* adopts a similar attitude towards the preservation of cattle wealth.

Early Buddhism suggests some solutions for the problem of social inequality. A *sutta* in the *Dīgha Nikāya* stresses the need to help herdsmen, farmers, traders, and government employees.[172]

The Pāli texts inculcate the virtue of charity among the laity not only for maintaining monks and nuns, who could not be supported unless the peasants produced sufficient surplus, but what is more important, for feeding parents, dependents including slaves, hired labourers, etc., and all needy people.[173] The need for maintaining social harmony through gifts and charity was also realized by the authors of the Gṛhyasūtras and Dharmasūtras. They also lay stress on the need to feed all guests, even a dog or *śvapāka* (considered to be the lowest caste) at the end of the *nṛyajña* sacrifice,[174] and on several other occasions. A law-book enjoins that a householder shall never eat without having given away some small portion of his food.[175]

NOTES

1 s.v. Majjhimadesa, *Dictionary of Pāli Proper Names*, For the identification of Kajaṅgala see N. L. Dey, *Geographical Dictionary*, p. 83.
2 s.v. Thūṇa, *Dictionary of Pāli Proper Names.*
3 According to a Jātaka, Majjhimadesa contained 14 mahājanapadas; only Gandhāra and Kamboja lay outside. s.v. Majjhimadesa, *Dictionary of Pāli, Proper Names.*
4 O. H. K. Spate and A. T. A. Learmonth, *India and Pakistan*, 3rd edn., London, 1967, pp. 98-9.
5 Ibid., p. 564.
6 Ibid.
7 Ibid.
8 Ibid., p. 565.
9 Ibid., p. 99.
10 Based on personal observation.
11 Op. cit., p. 115.
12 From the point of material culture this text contains much that is found in the earliest Pāli texts. Here we may refer to the story of Videgha Māthava.
13 K. K. Sinha, 'Session on NBP', *Purātattva*, no. 5, 1971-72, 38. Some others think that it has evolved out of black-slipped wares.
14 *Suttanipāta*, ed., and tr. (in Hindi), Bhiksu Dharmarakṣita, Varanasi, 1977, has been consulted in this paper. For the close relationship between these two *vaggas* s.v. *Sutta Nipāta*, G. P. Malalasekera, *Dictionary of Pāli Proper Names*, ii, London, 1974.
15 A. K. Warder, *Pali Metre*, PTS, 1967.
16 M. Winternitz, *A History of Indian Literature*, Vol. II, 2nd edn., Delhi, 1972 pp. 92-3.
17 Ibid., p. 35.
18 Vasudevsharan Agrawal, *Paninikalin Bharatvarsh* (in Hindi), Varanasi, 1969, p. 468.
19 George Bühler, *Sacred Books of the East*, ii, Introd., p. xlii. Bühler thinks

that the Gṛhyasūtra and the Dharmasūtra of Āpastamba are by the same author. Ibid., p. xiii *seq.*

20 *IAR*, 1965-66, p. 92.

21 B. B. Lal, 'Did the Painted Grey Ware continue up to the Maurya times?', *Purātattva*, No. 9, 1977-78, 68-78.

22 The calibrated value is given for an older date 500 ± 105 B.C. (ibid.), although a younger date 435 ± 100 B.C. for the same sample based on a little shorter half-life is available.

23 *IAR*, 1976-77, p. 88.

24 Conveyed to me through a copy of M. C. Joshi's paper submitted to the Seminar on Mathura held in New Delhi in January, 1981.

25 Prakash and Singh, *Coinage in Ancient India*, N. Delhi, 1969, pp. 528-32. All the six samples have been attributed to the 4th century B.C. Similarly all the seven iron objects from Prakash, where the black cotton soil has highly retentive moisture, have been found to be almost completely oxidized, *Ancient India*, nos. 20 and 21, 9, 139.

26 D. D. Kosambi was the first scholar to emphasize this point in his book *An Introduction to the Study of Indian History*, Bombay, 1956.

27 Romila Thapar, *Ancient Indian Social History*, Delhi, 1978, pp. 236-7. R. S. Sharma, 'Iron and Urbanisation in the Ganga Basin', *The Indian Historical Review*, i, no. 1, 1974, 98-103.

28 R. S. Sharma, 'Material Background of the Origin of Buddhism'. *Das Kapital Centenary Volume*, ed. M. Sen and M. Rao, N. Delhi, 1968, pp. 58-66.

29 Niharranjan Ray, 'Technology and Social Change in Early Indian History, a Note posing a Theoretical Question', *Purātattva*, no. 8, 1975-76, 132-8.

30 Niharranjan Ray, op. cit., p. 134.

31 Information from Dr Gyanchand of Hindu College, Delhi University.

32 Niharranjan Ray, op. cit., p. 134.

33 s.v. *ayanaṅgala*, T. W. Rhys Davids and William Stede, *Pali-English Dictionary*, PTS, London, 1921.

34 *Kokālika Sutta.*

35 Ibid.

36 *Ayoghana*, in the sense of an iron club, occurs in *Udāna*, p. 93 quoted s.v. *ayoghana*, *PED*.

37 Agrawal, op. cit., p. 224.

38 Pāṇini, IV. I.42; cf. Agrawal, op. cit., p. 224. The iron ploughshare is also known to the Gṛhyasūtras. Ram Gopal, *India of Vedic Kalpasūtras*, Delhi, 1959, p. 134.

39 s.v. *ucchu*, *PED*.

40 The term used is *ikṣuvana* in Agrawal, op. cit., p. 48. *Guḍa* mentioned by Pāṇini was evidently made of sugarcane juice. Ibid., p. 234; cf. Ram Gopal, op. cit., p. 134.

41 I am told that in the soft soil of Gorakhpur district double ploughing serves the purpose.

42 *sau chās torī,*
pachās chās morī.
okar ādhā gaṇḍā,
okar ādhā baṇḍā. I owe this to a Patna farmer named Kamta Singh.

43 *Baudhāyana Dharmasūtra*, III.2.5.6.

44 Professor B. Banerjee of Calcutta University tells me that acid soil is suitable for rice production.

45 J. R. Partington, *A Text-Book of Inorganic Chemistry*, 6th edn., London, 1963, p. 924.

46 Ibid.

47 Based on S. P. Raichaudhuri *et al.*, *Soils of India*, New Delhi, 1963.

48 Ibid.

49 M. S. Randhawa, *A History of Agriculture in India*, New Delhi, 1980, p. 14.

50 Patna, 1977, pp. 123-9.

51 *Vaiśāli Excavations*, Patna, 1969, pp. 199-200, mention broken objects.

52 A. K. Narain and T. N. Roy, *The Excavations at Prahladpur* (March-April, 1963), Varanasi, 1968, p. 63.

53 Niharranjan Ray, op. cit., p. 135.

54 H. C. Bhardwaj, 'Aspects of Early Technology in India', *Radiocarbon and Indian Archaeology*, ed., D. P. Agrawal and A. Ghosh, Bombay, 1973, p. 397.

55 Ibid., pp. 393-6.

56 Ropar 25, Reg. No. 32, Deposits kept at the Archaeological Survey of India, Safdarjang Gate House, New Delhi.

57 Pd II B at Jakhera is comparable with Pd III of Atranjikhera. Iron objects found here also include hoe (?), sickle, rod, spearheads and arrowheads; unpublished material for *Indian Archaeology, A Review for 1974-75* made available by the Archaeological Survey of India. For 1975-76 *IAR* the unpublished report speaks of axe, piece of a sickle, chisels, etc.

58 These 3 objects were shown to me by Prof. G. R. Sharma.

59 This is a fragmentary piece, heavily corroded. Reg. No. 865, *Sonpur Excavations*, p. 129; Reg. No. 935 refers to a heavily corroded chisel, ibid., p. 130. L. A. N. Prasad, one of the excavators, thinks that these objects belong to *c.* 400 B.C.

60 Unpublished material for *IAR*, 1974-75 made available by the Archaeological Survey of India.

61 Birendra Pratap Singh, 'Some Aspects of Life in Ancient Varanasi as revealed through the Archaeological Sources', Ph.D. thesis, Banaras Hindu University, 1980. K. K. Sinha suggests that the closing bracket could come down to 300 B.C. (personal discussion on 21 August 1981).

62 Ibid., Chart II.

63 Ibid.

64 Ibid., p. 484.

65 These artifacts can be seen in the Department of Ancient Indian History, Culture and Archaeology at the Banaras Hindu University.

66 Based on personal observation.

67 H. C. Bhardwaj, op. cit., p. 397.

68 Agrawal, op. cit., p. 157.

69 *bhastā*, *PED*.

70 s. v. *kuṭhārī*, *vāsi*, *PED;* The saw (*āragga*) is mentioned in the *Vāseṭṭha Sutta* of the *Suttanipāta*.

71 The term occurs frequently in early Pāli texts. s.v. *naṅgala*, *PED*.

72 The village occurs in the prose portion of the *Vāseṭṭha Sutta* of the *Suttanipāta*,

but the term *nangala* occurs in the verse portion of the *Kāsibhāradvāja Sutta* of this text.

73 Agrawal, op. cit., p. 199.

74 Ibid., p. 201.

75 Ram Gopal, op. cit., Chapter XIX.

76 Information from Professor G. R. Sharma.

77 See the entries under *ropana* and *ropeti* in *PED*.

78 V. S. Agrawal, op. cit., p. 204.

79 Ibid.

80 R. L. Turner, op. cit., no. 12415.

81 *AN*, i, 239-40. It may be noted that, even for seedlings meant for planting, in some Bihari-Aryan dialects the term *biyā* (viz., in Bhojpuri and in some shades of Maithili) is used.

82 s.v. *patiṭṭhāpeti* (*DN*, i, 20b; *SN*, i, 90) = to establish, set up, fix, put into, install, *Pali-English Dictionary*.

83 *AN*, iv, 237-8.

84 Ibid.

85 s.v. *rūḷh* (*SN*, 20), *Pali-English Dictionary*.

86 *AN*, i, 239-40.

87 Ibid.

88 In early Pāli texts similes associated with banana are frequently used. s.v. *kadalī*, *Pali-English Dictionary*.

89 Ed., N. V. Vaidya, Poona, 1940, VII.68 (p. 86); the readings *ukkaya-ṇihae* and *ukkhaya-nikkhae* also appear in some mss (ibid., p. 237). Also Gustav Roth, 'The Similes of the Entrusted Five Rice-Grains and their Parallels', *German Scholars on India*, i, The Chowkhamba Sanskrit Series Office, Varanasi, 1973, 237.

90 *Sacred Books of the East*, xxii (*Jain Sūtras*, pt. I), Rept, Delhi, 1980, Introd., pp. xxxix–xliv). Jacobi (ibid., p. xliii) states: 'The composition of the Jain canon would fall somewhere about the end of the fourth or the beginning of the third century B.C.'

91 *A History of Indian Literature*, ii, 2nd edn., New Delhi, 1972, 434.

92 Ibid.

93 M. Winternitz, op. cit., 473.

94 Ibid., 473-74.

95 Ibid., 474. Winternitz further states that the oldest nucleus of the *Uttarājjhayaṇa* or *Uttarādhyayana Sūtra* consists of poems, which remind us most forcibly of the *Suttanipāta* (ibid., 466).

96 It is held by Leumann that the contents of the *Uttarādhyayana* are closely related to the sixth *aṇga* (ibid., fn. 2), i.e., the *Jñātādharmakathā*, which therefore may be considered to be one of the earliest Jain texts.

97 G. Roth, op. cit., 237.

98 *Nāyādhammakahāo*, VII. 68 (p. 85). In this context *purise* can be better rendered as agricultural labourers and not 'servants', as has been done by Roth, op. cit., 235, 237. Elsewhere in the text (VII. 68), the 'servants' are called *kuḍumbiyā*, i.e., householders or cultivators.

99 The name Rohiṇī is significant, because sowing in the Gangetic plains starts in this *nakṣatra* or asterism.

100 *khuḍḍāgaṃ keyāıaṃ suparikammiyaṃ karenti... te panca sālımakkhae vāvantı, Nāyādhammakahāo*, VII. 68 (p. 86).

101 Ibid., the term *ukkhāyaṇihae* is also used.

102 Evidently the term *ukkhāyaṇihae* does not mean mere transplantation but second or third transplantation, which ıs indicated by the term *khaıhan* or *khaılagāī* in different shades of Maithilī.

103 Obviously scholars have still to locate the varıous strata of this text on the basis of style, vocabulary, geography, and its social, economıc and doctrinal contents.

104 Prose portion of the *Kokālıka Sutta* of the *Suttanıpāta*. Barley, rice, sesamum, panic seed, millet, wheat, mustard and such beans as *māṣa*, *mudga*, and *kulattha* are mentioned in the Śrautasūtras. Ram Gopal, op. cit., p. 134; also fn. 10 on p. 147.

105 *SN*, iv, 314-17.

106 *AN*, iv, 237 f.

107 *idha, bhikkhave, khettaṃ anunnāmāninnāmi ca hoti, apāsāṇasakkharikaṃ ca hoti, anūsaraṃ ca hoti, gambhirasitaṃ hoti, āyasampannaṃ hoti, apāyasampannaṃ hoti, mātikā sampannaṃ hoti, mariyādasampannaṃ hoti. evaṃ aṭṭhaṅgasamanāgate, bhıkkhave, khette bījaṃ vuttaṃ mahapphalaṃ hoti mahassādaṃ phātiseyyaṃ*, ibid., 237-8.

108 Agrawal, op. cit., pp. 202-3; Ram Gopal, op. cit., p. 133.

109 Agrawal, op. cit., pp. 212-13.

110 *Śāṅkhāyana Gṛhyasūtra*, IV, 13.1; cf. *Āśvalāyana Gṛhyasūtra*, II. 10.3

111 There are many entries of proper names derived from *amba* in *DPPN*, i, 149-63; some of these are groves and parks, and a few are villages. Of course the courtesan Ambapāli is well known.

112 s.v. *sāla*, *PED*.

113 It is mentioned in the Jātakas, s.v. *jambu*, *PED*.

114 Mentioned in the *Śāṅkh. Gr. S.*, s.v. *madhūka*, Monier-Williams, *Sanskrit-English Dictıonary*.

115 s.v. *palāśa*, Monier-Williams, op. cit.

116 Dilip K. Chakravarti, 'Beginning of Iron and Social Change in India', *Indian Studies· Past and Present*, xiv, no. 4, 1973, 329-38.

117 I gathered all this from my visit to Chirand in May 1981 and from my discussion with Basudeva Narain, the excavator. But only if samples are available for C-14 datings can some firm dates be suggested.

118 B. P. Sinha and S. R. Roy, *Vaiśālī Excavations*, 1958–62, Patna, 1969, pp. 6-7.

119 A. K. Narain and T. N. Roy, *Excavations at Rajghat* (*1957–58; 1960–65*), pt I, Varanasi, 1976, p. 22.

120 s.v. Kajaṅgala (Kajaṇgalā), *Dictionary of Pāli Proper Names;* Kankjol is a place 67 miles to the east of Bhagalpur. N. L. Dey, *The Geographical Dictionary*, p. 83.

121 *DN*, ii, 134; *MN*, i, 124 and *SN*, i, 157 quoted s.v. sāla, *Pali-English Dictionary*.

122 s.v. Thūṇa, *Dictionary of Pāli Proper Names*. In Magahī *ṭon* ıs the term used for the stump of the palm tree.

123 s.v. Mahājanaka Jātaka, *Dictionary of Pāli Proper Names*.

124 s.v. Khāṇumata, ibid.

5 *SN*, iv, 193 quoted s.v. *khāṇu*, *Pali-English Dictionary*.

6 The term *jhāmakhetta* occurs in *Jāt*, i, 238; s.v. *jhāma*, *Pali-English Dictionary*.

7 *MN*, i, 370; *SN*, i, 69. iv, 84; *AN*, i, 135, ii, 38 quoted s.v. tāla *Pali-English Dictionary*. The term *pahīn*, if we go by its survival *pāhnā* in Bihārī Aryan dialects, should be rendered as 'axed out'.

8 s.v. Ekanāḷā, *Dictionary of Pāli Proper Names*.

9 s.v. Veludvāra, 1-3, Veḷuvana, ibid.

0 This might apply to such names as Uruvela and Beluva; both are listed in *Dictionary of Pāli Proper Names*.

1 s.v. Araññа, ibid.

2 G. R. Sharma, *History to Prehistory*, p. 78.

3 I owe the information to Dr R. C. P. Singh.

4 A. K. Narain and T. N. Roy, op. cit., p. 22.

5 G. R. Sharma, *History to Prehistory*, *p*. 80.

6 Ibid., pp. 110-11.

7 Ibid., pp. 83-7.

8 Ibid., p. 87.

9 Ibid.

0 *AV*, I.3.; XV.

1 XVII.1.2.

2 Deputy Kohli has counted 428 sites, mainly on the basis of reports published in *IAR* till 1975-76. To these we may add 13 sites of Bihar and UP mentioned in *IAR*, 1976-77, pp. 12, 53, and again 25 sites of the same two states mentioned in *IAR*, 1977-78, pp. 15-16, 54, 57-9. The total comes to 466.

3 A. K. Narain and P. C. Pant, 'A Summary Account of Archaeological Explorations in East U.P.—1962-63', *Bhāratī*, no. 8, Pt. I, 1964-65, 115-35. The list given on pp. 130-2 and 134-5 has been analysed by Dr Vidula Jayswal.

4 In the unpublished copy of *IAR*, 1978-79, 29 NBP sites UP appear in UP and Bihar; in a similar copy for 1979-80, 38 sites from UP and 1 from Bihar are listed. In a similar report for 1980-81, 27 sites in UP are mentioned. Most of the sites belong to Bihar and eastern UP.

5 In the list of sites prepared by Deputy Kohli one could count nearly 350 for UP and Bihar; to this we have added another hundred known from various sources.

6 There are two carbon-14 dates from Ropar, 390 B.C. (*IAR*, 1965-66, 90) and 325 B.C. (*Radiocarbon*, viii, 1966, 450).

7 One carbon-14 date from Ahicchatrā is 475 B.C. (*IAR*, 1965-66, 91), and the other is 410 B.C. (*Radiocarbon*, viii, 1966, 444), although from the same place we have a couple of dates later than 200 B.C.

8 We get two carbon-14 dates from Ujjain, 450 B.C. (*IAR*, 1967-68, 70) and 385 B.C. (*Radiocarbon*, xi, 1969, 192).

9 We may note four carbon-14 dates from Besnagar, namely 310 B.C. (*IAR*, 1976-77, 87); 470 B.C. (Ibid., 1965-66, 88); 320 B.C. (ibid., 1977-78, 88), and 400 B.C. (*Radiocarbon*, x, 1968, 132). I owe to Deputy Kohli all the information supplied in footnotes 146-9 except in regard to one date in

fn. 149. These dates appear here without variations and without calibrated values.

150 K. Mylius, *Ethnologisch-Archaologische Zeitschrift*, Berlin, 1969, p. 33 and *Mitteilungen des Institute für Orientforschung*, xvii Berlin, 1972, p. 369; W. Rau, *Staat und Gessellschaft im alten Indien*, Wiesbaden, 1957. Both authors quoted in J. Gonda, *The Ritual Sūtras*, p. 623, fn. 23.

151 Cities situated on the banks of rivers or on the sea coast were built of wood; this we learn from Megasthenes and classical writers who quoted from him. K. A. Nilakanta Sastri, ed., *Age of the Nandas and Mauryas*, Delhi, 1967, p. 118 and fn. 1 on the same page.

152 The early date varies from 605 B.C. (*IAR*, 1971-72, p. 82) to 530 B.C. (*Radiocarbon*, xv, 1973, p. 578).

153 A. K. Narain and T. N. Roy, *Excavations at Rajghat*, part I, Varanasi, 1976, p. 22.

154 The wooden planks, palisades, etc., have still to be examined carefully.

155 There is a similar term in some European languages, but it seems to have no connection with the Indian *śāl*, which appears late in Sanskrit, s.v. *śāl*, Monier-Williams, *Sanskrit-English Dictionary*.

156 A. K. Narain and T. N. Roy, op. cit., pp. 22-23, 49.

157 B. P. Sinha and B. S. Verma, *Sonpur Excavations* (1956 and 1959-62), Patna, 1977, p. 9.

158 A. K. Narain and T. N. Roy, op. cit., p. 23.

159 *Aṅguttara Nikāya* (PTS), i, 178.

160 Mentioned in the *Mahāparinibbāna Sutta* of the *Dīgha Nikāya* which is considered to be late. *Agganagaram* and *puṭabhedanam* are the names given to Pāṭaliputra in *DN*, ii, 87-8.

161 Agrawal, op. cit., pp. 76-87.

162 *prācāṃ grāmanagarāṇām*, VII.3.14.

163 *Baudha.Dh.S.*, II.3.6.33-34, *Āpast.*, I, II, 32.32.

164 K. K. Sinha, *Excavations at Śrāvasti*—1959, Varanasi, 1959, pp. 8-9.

165 *Vāseṭṭha Sutta*.

166 *Purabheda Sutta*.

167 The references which speak of numerous slaves and hired labourers belong to later Pāli texts. For references see Dev Raj Chanana, *Slavery in Ancient India*, New Delhi, 1960, p. 42 with fns. on p. 156; also see fn. 60 on p. 168.

168 Pāṇini speaks of both daily and monthly basis. Agrawal, op. cit., p. 226.

169 A. A. Macdonell and A. B. Keith, *Vedic Index of Names and Subjects*, i, 309.

170 For further details see the author's *Śūdras in Ancient India*, 2nd edn., Delhi, 1980, pp. 95-98, 315-16.

171 *gāvo no paramā mittā yāsu jāyanti osadhā, annadā baladā cetā, vaṇṇadā sukhadā tathā.*

172 *DN*, i, 135ff.

173 *DN*, i, 142 shows concern for good treatment of slaves and hired labourers, which is later emphasized by Aśoka. *DN*, iii, 65ff. says that widespread poverty in a kingdom increases stealing which is followed by other evils.

174 Ram Gopal, op. cit., p. 392.

175 *Baudhāyana Dharmasūtra*, II.3.5.17.

CHAPTER SEVEN

Material Milieu of the Birth of Buddhism

Buddhism arose and flourished in eastern Uttar Pradesh and Bihar, in the kingdoms of Magadha and Kosala. The Buddha spent most of his time in Bihar, and after his death three councils were held successively at Rājagṛha, Vaiśālī and Pāṭaliputra. Why is it that north-eastern India became the cradle of Buddhism in the sixth-fourth centuries B.C.? Did heterodox sects arise merely as a reaction to the ritual-ridden religion of the Vedic people? But ritualism was far more entrenched in western UP than in eastern UP and Bihar, where people reacted against it. In our opinion the real key to the understanding of the rise of new religious movements lies in certain significant developments in the material life of the people.

The primary factor that revolutionized the material life of the people around 700 B.C. in eastern UP and Bihar was the beginning of the use of iron in its second phase. One carbon-14 date shows the advent of iron at Atranjikhera in Eta district in western UP around 1000 B.C., but in any case iron implements were used in the Gandhara area around 900 B.C. and in western UP around 800 B.C. Their use gradually spread to eastern UP, and iron slags found in Rajghat suggest that iron ore was brought here for the manufacture of implements around 700 B.C. Similarly the NBP phase in Prahladpur in the district of Varanasi marks the advent of iron possibly around 500 B.C. We have evidence of iron in Chirand in the district of Saran in Bihar in the seventh-sixth centuries B.C., and many iron slags and about five implements, mostly unrecognizable, have been found in Vaiśālī and can be ascribed to the sixth century B.C. In Sonpur in the district of Gaya in the uppermost levels of the pre-NBP phase associated with black-and-red pottery, lumps of iron ore and slags have been discovered. This is the earlist association of black-and-red ware with iron in south Bihar. The NBP phase at this site contains many iron implements such as lances, spearheads, arrowheads, daggers, axes, nails, chisels, blades, etc. Many iron slags have been found in Bhagalpur at the

old site of Campā, and belong to the early levels of the NBP which has been found in very large numbers there. All this shows that there was considerable advance in iron metallurgy in the sixth to fifth centuries B.C.

Plough agriculture, possibly with the iron ploughshare, began in western UP around 600 B.C. or later. An iron share belonging to the last phase of the PGW (perhaps middle of the first millennium B.C. or even later) has been found at Jakhera in Eta district. Another share belonging to the NBP level has been found at Kauśāmbī. As the new agriculturists advanced further they spread their knowledge in eastern UP and Bihar around 600–300 B.C. As shown earlier, the literary texts of pre-Maurya times contain several terms indicating 'iron share'. The *Vinaya Piṭaka*, which is rather late, talks of it in more specific terms. To quote from it: 'As a ploughshare heated the live-long day if placed in water sizzles and hisses and sends forth steam and smoke, so did this sugar when placed in the water sizzle and hiss and send forth steam and smoke.'[1] The use of the iron axe, share, sickle and other implements led to the clearance of the jungles and foundation of large-scale settlements, and introduced new agricultural techniques, but the existing social and ideological make-up of eastern UP and Bihar did not favour these developments. Much preparatory work had to be done for the adoption of the new ways of agriculture by primitive people, who lived in sparsely inhabited upland areas and practised hoe agriculture.

We can visualize the confrontation between the social and material culture of the people living on the fringes of the Aryan culture in the north-east and using polished tools and weapons of stone supplemented by a little copper on the one hand and that of iron-using people on the other. The neolithic-chalcolithic people of the east—aborigines and non-Aryans—cultivated small patches of land in the upland regions by burning the forest and then cutting the trees. Their hoe and dibbling stick enabled them to produce rice and small millets, all without the help of bullocks, cowdung, carts, etc. In other words their agriculture was not bound up with animal husbandry. They domesticated cattle not for dairy produce and agriculture but for non-vegetarian food, as is even now done by the Nagesias in Palamau. This practice was followed by some megalithic people living in the Allahabad zone. In the megaliths at Kotia, situated on the Belan river, have been found numerous bone fragments of domesticated animals including oxen, sheep and pigs'.[2] 'Some of the bones bore cut-marks indicating thereby deliberate slaughter of animals.'[3]

In the land of Kuru and Pañcāla, in western UP, cattle wealth

was being decimated by slaughter in sacrifices, which were probably refined and sophisticated methods to meet dietary needs during the prefield agriculture stage. This was also the case in eastern UP and Bihar, as is indicated by the *Śatapatha Brāhmaṇa*. But once sanctioned by religion these sacrifices became a senseless source of the destruction of cattle wealth and consequently an impediment to the progress of agriculture. Various types of cattle and goats were prescribed in later Vedic texts for sacrifice to various gods. A bull or *vṛṣabha* was sacrificed to Indra, a dappled cow to the Maruts, and a copper-coloured cow to the Aśvins. A cow was also sacrificed to Mitra and Varuṇa.[4] Cattle were sacrificed on numerous occasions in public rites, and in the *aśvamedha* sacrifice as many as 600 animals of various types were killed.[5] The end of the *aśvamedha* was marked by a new sacrifice in which 21 sterile cows were killed.[6] The horse-sacrifice may not have been a frequent phenomenon, but cows were killed in several other sacrifices which were common and less expensive. The cow was sacrificed in the fire-laying (*agnyādheya*) ceremony which preceded all public rituals.[7] We hear of *śūlagava* or the sacrifice 'of the ox on the spit',[8] the sacrifice of a sterile cow or that of 11 animals in the *agniṣṭoma*.[9] In a later Vedic ritual in the funeral ceremony the corpse is garnished with a cow, limb by limb, to protect it against the flames.[10] According to one text, in the funeral ceremony (*śrāddha*) at a crossroad a cow is killed, and its members are cut to pieces and given to the passers-by.[11] Most authorities consider the flesh of certain animals to be pleasing to the manes, and beef is thought to be a delicacy for a distinguished guest who is known as a killer of the cows (*goghna*).[12]

In Vedic and allied texts we come across many terms which indicate the practice of cow-killing. For example, we may mention *govikarta*[13] (a cow-slaughterer), *gavyaccha*[14] (one who kills or torments a cow), *gosava*[15] (a cow-sacrifice), and *goyajña*[16] (a cow-sacrifice). In the *Atharva Veda* and the *Kauśika Sūtra* several terms suggest the sacrifice of cattle of various categories. We hear of the offering of a white calf (*karkī*), a young ox (*anuḍuha*), a dappled cow (*pṛśni*), a bull (*ṛṣabha*) and of a sterile cow (*vaśā*).[17] It is suggested that only dappled and sterile cows were sacrificed; otherwise all the other categories were given to the brāhmaṇas, and even the sterile and dappled cows were given.[18] In our opinion, all these types of cattle were probably sacrificed in the beginning, but with the growing needs of agriculture they may have been given to the brāhmaṇas.

In the *Śatapatha Brāhmaṇa*, which was composed around *c*. 600 B.C., we notice a debate regarding the eating of beef. In the first instance it was argued that a person who is ordained for sacrifice

should not partake of beef. It was pointed out that milch cows and young oxen should not be eaten, but Yājñavalkya argued that he would certainly consume beef because it makes the body fat.[19] It seems that the latter point of view prevailed for a couple of centuries or so after the middle of the first millennium B.C., with the result that many animals, including cows, continued to be killed at sacrifices, and their meat was eaten by the sacrificers.[20]

The early Pāli texts contain numerous references to cow-killing. In the *Majjhima Nikāya* similies speaking of skilled cow-butchers or apprentices to those butchers engaged in their job on the cross-roads are repeatedly used.[21] In the *Suttanipāta* we hear of death taking toll of living beings, who are compared to cows meant for killing.[22] The same text informs us that advised by the brāhmaṇas Ikṣvāku performed a sacrifice in which he slaughtered several hundreds and thousands of cows.[23] The text bewails that the king, caught the cow by their horns and then killed them. It adds that cows cause no violence either through their feet, or horns, or any other limb, they are innocent like sheep and give so much milk that it fills the jar.[24]

The Vedic practice is affirmed by excavations, for animal bones from Atranjikhera are largely those of cattle. They bear clear cut-marks and mostly antedate 500 B.C. The Vedic religious ideology therefore did not suit the iron-plough agriculture which was mainly dependent on animal husbandry. Thus both the Vedic and non-Vedic practice provided for the killing of cattle, which had to be now preserved to meet the needs of the iron plough agriculture. In the *Suttanipāta* agriculture is considered to be identical with cow-keeping. It is stated that a person who lives on cattle rearing should be identified as a cultivator.[25] The concern of the early Pāli texts for plough agriculture can be inferred from the details given about cultivating and sowing. The farmer (*gahapati*) is taught to prepare the ground carefully, to sow seeds in a well thoughtout manner, and to supply water to the land on time.[26] The importance of agriculture is also evident from the following simile which is used by Buddha in course of his religious discourses given to farmer Bhāradvāja:

> Faith is the seed, and rain the discipline.
> Insight for me is the plough fitted with yoke,
> My pole is conscience and sense-mind the tie,
> And mindfulness my ploughshare and my goad.[27]

In one context the functions of a peasant are considered as forming an allegorical model to be followed by a monk. A peasant

householder well cultivates his field, makes its soil suitable quickly, plants seedlings quickly, supplies water and takes it out quickly. These are his three urgent duties.[28] Similarly a monk is advised to undertake training in higher morality, higher thought and higher insight.[29] Further, when the peasant householder's paddy field is ripe, he quickly reaps it, harvests it, puts it in stooks, treads it out, pulls off the stalks, winnows away the chaff, collects the rice, threshes it out and removes the husks. Thus his crops reach perfection.[30] The Aryan disciple is also advised to be similarly active and alert for his spiritual growth and final freedom from fetters.[31] These similes show that the Buddhists considered agricultural operations to be extremely important.

The Buddhist rejection of animal sacrifice and emphasis on non-injury to animals assumed a new significance in the context of the needs of new agriculture. A faint protest against sacrifice is found in some later Vedic references. In the *Ṛg Veda* the term *aghnyā* or 'not to be killed' is mostly used for a milk-giving cow, and it generally occurs in later portions of the text.[32] The same term is also used for cattle at several places in the *Atharva Veda*,[33] which also gives considerable evidence of agriculture, but numerous references to cattle sacrifice suggest that normally the killing of animals, including numerous cattle, was approved of by the Vedic ideology. In sharp contrast to this Gautama Buddha asserts that animal sacrifice does not produce any merit. He favours a *yajña* (sacrifice) which does not involve violence. According to him to dispense charity is the greatest *yajña*. We have the story of a rich brāhmaṇa called Uggatasarīra, who collected numerous animals for sacrifice, but at the advice of the Buddha released them. This brāhmaṇa was asked to raise sacrificial fires for the sake of parents; for wife, children, servants and retainers (the *gahapataggi*); and for holy men and recluses.[34]

Gautama Buddha pointedly and specifically attacked Vedic sacrifices in which animals were killed. It is said that once when he was visiting Śrāvastī, Prasenajit, the king of Kosala, started a great sacrifice. In this sacrifice 500 oxen, 500 male calves, 500 female calves and 500 sheep were tied to the sacrificial post for sacrifice.[35] The slaves, messengers and hired labourers of the king, threatened by fear and force, were making preparations for this sacrifice with tears in their eyes.[36] When this was reported to the Master, he remarked that the *aśvamedha*, *puruṣamedha*, *vājapeya*, etc., did not produce good results. Sages of good conduct did not prescribe those sacrifices in which various beings such as goats, sheep and cattle were killed.[37] Great sages of good conduct recommended those sacrifices in which goats, sheep and cattle were not killed.[38]

The most emphatic protest against animal sacrifice is registered in the early Pāli texts. The earliest Buddhist text, the *Suttanipāta*, considers non-violence to be the greatest virtue that has to be inculcated among the lay devotees or the *upāsakas*. Next to it is the virtue of not accepting anything which has not been given by somebody, in other words respecting private property. By means of a story in the Brāhmaṇadhammika Sutta of the *Suttanipāta*, the Buddha teaches that cattle should be protected. Talking of ideal brāhmaṇas of older times he states that they performed a sacrifice in which cattle were present, but were not killed.[39] Like mother, father, brother or other kinsmen, cattle are our great friends, and because of them plants grow. They are givers of food, strength, beauty and happiness. The Buddha adds that because they realized it the brāhmaṇas did not kill cows.[40] It was thus clearly understood that agriculture depended on cattle wealth. The emphasis on protection of cattle was certainly revolutionary teaching at a time when cattle were slaughtered either for food and religion or both. It may be added that Jainism also strongly rejected animal sacrifice as prescribed by the Vedas. In the 25th chapter of the *Uttarādhyayana Sūtra*, which is considered to be one of the earliest Jain canonical texts, we find the following: 'The slaughter of animals is prescribed in all the Vedas, and it is mixed with a sinful act. These sinful acts of the sacrificer cannot protect him (the sacrificer)'.[41] It is well known that the Jains tried to practise a more rigorous form of non-violence than the Buddhists. In any case we can appreciate the relevance of these Jain and Buddhist teachings if we keep in mind the needs of animal husbandry.

Gorakkhā or protection of cattle is regarded as one of the important functions of the householder (*gahapati*), and brāhmaṇical emphasis on *gorakṣā* is possibly derived from Jain and Buddhist teachings. In the early Pāli texts cow-keeping appears as an important function of the *gahapatis* and *kulaputtas*, and as many as eleven qualities of a cowherd are enumerated in the *Majjhima Nikāya*.[42] A cowherd is supposed to be well versed in material shapes, skilled in distinguishing marks, is able to remove flies' eggs, and knows how to attend to sores and can perform fumigation. He has to be familiar with fords, watering places and pastures, and has to be able to spot the bulls that can lead the herd.[43]

Cattle wealth had to be preserved for agriculture but dietary needs had also to be met.[44] The Buddhists possibly preferred pork to beef. At least two references lend support to this hypothesis. Ugga, a householder of Vaiśālī, is said to have offered to the Buddha, rice, cakes, flesh of pigs, and Kāsi robes;[45] the tradition

regarding the death of Buddha as a result of eating pork is well known.

Agriculture based on the use of the iron share, sickle, spade, etc., led to the production of surplus on a scale which could not be attained with stone or copper implements. This prepared the ground for the rise of urban settlements in north-eastern India around 600 B.C. The Pāli texts speak of twenty towns, six of them being associated with the death of the Buddha. Archaeology shows a large number of towns in the middle Gaṅgā basin during this period. At least ten urban sites such as Campā, Rājagṛha, Pāṭaliputra (though later), Vaiśālī, Varanasi, Kauśāmbī, Kuśīnagara, and Śrāvastī are attested not only by the early Pāli texts but also by archaeology. In addition we may mention Chirand, Sringaverpur, Piprahwa and Tilaurakot. The remains of Lauriyanandangarh also show that it was a town. Whatever may be the origin of a town, it eventually became a market. Obviously artisans and traders called seṭṭhis accounted for a large proportion of the city population and were engaged in trade and industry. Trade was facilitated by the use of punchmarked coins which are stratigraphically ascribed to the fifth century B.C. and may have appeared earlier. More than three hundred hoards of punchmarked coins are known,[46] and many of these have been found in the middle Gangetic zone. Although certain terms in later Vedic literature are interpreted to suggest the use of coins, actual coins are not found before the age of the Buddha. A new kind of pottery, called Northern Black Polished Ware, which could be used for ritualistic or table purposes, first appeared in this period and may have helped trade. This glossy, shining pottery with its very fine fabric suggests that it was used by well-to-do sections of society. It may therefore have been an item of trade. Slags discovered suggest that iron tools were made at various urban sites, and may have been an important factor in the improvement of transport and other aspects of trade and manufacture.

The brāhmaṇical attitude towards trade, as known from the Dharmasūtras, was not helpful. The earliest law-books prescribe trade and agriculture for the vaiśyas, who are assigned the third place in society, the first two being reserved for the brāhmaṇas and kṣatriyas. In times of distress the brāhmaṇas are permitted to trade, but this is of a limited nature. They cannot trade in men, liquids, perfumes, cloth, leather, foodgrains, etc.[47] Apparently the traders who dealt in these commodities were looked down upon in brāhmaṇical society. The inhabitants of Bihar—Magadha and Aṅga—were held in contempt because they traded in certain articles. Baudhāyana, an early lawgiver, ascribes mixed origin to the people

of Aṅga and Magadha and also to the people of some other outlying areas on the fringe of Aryandom at the end of the later Vedic period and declares them to be guilty of drinking liquor, trading in wool, in animals such as the horse, and in arms, and of going to sea. Anthropologists attribute the art of coastal navigation to the Dravidians, but sea voyage (*samudra-saṃyāna*) is condemned as a sinful practice by Baudhāyana.[48] In contrast to this the early Buddhist texts record several instances of sea voyage with a sense of approval.

Although the first converts to monasticism were five persons called the *pañcavargīya bhikṣu*, who formed the order of the monks (*bhikṣu saṃgha*),[49] not much is known about their antecedents from the earlier texts. In the *Jātaka Nidānakathā* and in other commentaries they are represented as brāhmaṇas,[50] but it is doubtful whether they belonged to the first varṇa.[51] It is significant that the first lay converts to Buddhism were recruited from the trading class. Tapassu and Bhallika from Utkala are represented to have been the first lay disciples, and they are called traders (*vāṇijā*).[52] In many dialogues of the early canonical Pāli texts the Buddha enters into disputations with various brāhmaṇas regarding the utility of animal sacrifice and the validity of the element of heredity in the caste system, and eventually he succeeds in convincing them of his own point of view. It is natural that five brāhmaṇas are represented among the earliest monks, but the largest number of monks at the initial stage seems to have come from the class of traders and substantial peasants (*gahapati*). One of the earliest monks was Yasa, a householder from Banaras. He was followed by his friends Vimala, Subāhu, Pūrṇajina and Gavāmpati, who obviously were also seṭṭhis. When it was known that these people had been converted to Buddhism, fifty other householders (*gihisahāyaka*) came forward and were indoctrinated by the Buddha.[53] The liberal donations of Anāthapiṇḍika and other lay merchant millionaires to the Buddha and his order can be better appreciated if we bear in mind the brāhmaṇical attitude to trade.

Trade involved the use of money, which led to moneylending and usury. The idea of debt is found in the Vedic texts, but the idea of interest does not appear clearly. In simpler societies debt is practised as a form of mutual aid and reciprocal lending. At any rate in the absence of money there could be no moneylending in Vedic society; at best *niṣkas* or golden necklaces may have circulated as prestige objects among tribal chiefs and their priests. But with the advent of metal money in the sixth century B.C. there began the practice of usury. However the existing social ideology did not favour lending money on interest. An early lawgiver, Āpastamba, lays down

that the brāhmaṇas should not accept the food of a person who charges interest (*vārdhuṣikaḥ*) and of those who live on the labour of persons held as mortgage, presumably in return for interest on the loan.[54] Some authorities lay down that no interest should be charged by the lender for one year;[55] this shows that the introduction of interest was only grudgingly approved.

The Pāli texts repeatedly refer to debtor, creditor, debt and interest. Speaking of her previous birth a nun complains that born as a girl in a carter's family she was much oppressed by creditors. Because of the large amount of interest that had accumulated a caravan-leader dragged her off from her family house.[56] The Vedic texts mention loans in the context of games of dice, but the Pāli texts show that loans were taken for setting up business. A person could promote his business with a loan, pay off the old debt and also save surplus to maintain his family.[57] Significantly enough moneylending is not condemned in Buddhist texts. The Buddhist canons define right livelihood (*sammā ājīva*) and right action (*sammā kammanta*) by prescribing a number of don'ts,[58] but the list does not include usury. On the other hand the Buddha advises the householder to repay his debts and bars admission of a debtor to the *saṃgha*. A person free from debt is shown as enjoying his food,[59] which implies that people were encouraged to clear off their debts. The *Dīgha Nikāya* indicates that paying off debts brings a sense of great relief. Free from debt, an ideal caravan leader roams in the world like a brave conqueror.[60] Of various types of pleasures recommended for a householder is the one derived from freedom from indebtedness, *āṇanyasukham*. If a person owes neither little nor much to anybody, he enjoys pleasure and mental peace.[61] The fact that a separate *sutta* is devoted to the virtues of freedom from indebtedness implies the necessity of paying off debts. What is more significant, a trader is asked to create in others the confidence that he is capable of paying back the debt along with the interest.[62] The Buddha therefore emphasizes not only payment of debt but also that of interest. Thus Buddhism gave implicit support and also direct encouragement to lending money on interest which was discouraged and even condemned by the brāhmaṇical law-books.

By implication some Buddhist teachings occurring in the Iṇṇa Sutta suggest that neither poverty nor indebtedness is desirable. It is stated that a poor person having incurred debt lives in it in suffering; in this sense both poverty and borrowing; cause misery.[63] Further the person in debt has to be at the beck and call of the creditor, and he is subjected to labour or confined to prison, and consequently misery becomes binding.[64] According to this teaching a monk who is not devoted to dhamma is compared to a

poor person who incurs debt.[65] But the teaching may also imply that a person should not incur debts, and if he does so he should pay them back.

In certain respects the behaviour pattern of an ideal trader is recommended in Buddhist teachings as a model for a monk. The first Papaṇika Sutta states that the shopkeeper who neglects his duties in the morning, at midday and in the evening does not prosper, and the same is true of the monk who does not follow a similar kind of daily routine.[66] More importantly, early Buddhist teachings seem to recommend a number of tips for success in trade. A trader needs three qualities—vision, shrewdness and ability to inspire confidence.[67] Vision enables him to judge the nature of the commodity, the price at which it arrives and the price which will give him profit.[68] Shrewdness consists in his skill in selling and purchasing commodities.[69] Confidence is inspired not only by trading with borrowed money but also by supporting one's son and wife and also by repaying the borrowed money with interest on time.[70] Such a shopkeeper soon becomes great and wealthy. The monks are also advised to emulate these qualities of a shopkeeper so that they may understand the nature of *dukkha* or misery, acquire proficiency in dhamma, and take good care of the monks who arrive from outside.[71] In all these respects the small trader or the shopkeeper is held as a model for the monk, although the former is fully absorbed in worldly affairs and the latter is a renouncer.

The urban setting in the age of the Buddha gave rise to certain features of town life which did not find favour with the brāhmaṇical outlook conditioned by a simple agricultural society. Eating houses, a common trait of town life, were not considered to be desirable. People of higher classes (most probably brāhmaṇas) were advised by Āpastamba not to eat food prepared in shops,[72] although some items were made the exception;[73] this shows some prejudice against the new shopping class and the mode of life in urban settlements in general. But the Buddhist texts do not exhibit such an attitude.

The urban surroundings and break-up of the old tribal family created a class of alienated women who took to prostitution as a source of livelihood. Early Pāli texts refer to prostitutes living in towns. Vaiśālī became famous because of Āmrapālī, who charged fifty *kahāpaṇas* a night from her patrons. This prompted Bimbisāra, the king of Magadha and a contemporary of the Buddha, to get a courtesan for his own city of Rājagṛha.[74] But prostitution was held in contempt by the brāhmaṇical expounders of law. According to Baudhāyana the food offered by a prostitute (*gaṇikā*) is forbidden, and the lawgiver Gautama[75] asks a brāhmaṇa not to take food offered by a prostitute or unchaste women. This may be

contrasted with the Buddha's attitude towards Āmrapālī, with whom he stayed. Women were admitted to the Order, and there was no bar against prostitutes. So prostitution, characteristic of urban society, was tolerated by the Buddhists but not by the brāhmaṇas.

The use of iron weapons revolutionized military equipment and added to the political importance of warriors in contrast to that of priests. They naturally claimed a position of equality in other fields. The conflict between the interests of brāhmaṇas and kṣatriyas is evident in many texts. This partly explains the kṣatriya origin of Gautama and Mahāvīra, and also the fact that even the older Buddhist texts accord the first place to the kṣatriyas and the second to the brāhmaṇas. The kṣatriya rulers could be maintained only by regular payment of taxes. Both the Buddhist and brāhmaṇical texts of the age of the Buddha justify the royal share of the peasant's produce on the ground that the king gives protection to the people. But the Buddhist canonical text *Dīgha Nikāya* seems to have been the earliest Indian source to give a reasoned justification for the origin of the kṣatriya ruling class by painting in detail a state of misery brought to an end through the establishment of the kṣatriya rule. The kṣatriya is clearly stated to be the protector of fields which were occupied by individuals in north-eastern India in the age of the Buddha.[76] Ability to pay taxes is considered by the Buddha as one of the five fruits of wealth[77] and is meant to serve the political order based on regular taxes.

It is difficult to clearly indicate the time lag between the advent of substantial settlements based on iron share cultivation and paddy transplantation in the middle Gangetic zone on the one hand and the social and religious changes on the other. Whatever may be the exact date of Gautama Buddha, his teachings or what came to constitute the original Buddhism took shape in the texts which are assigned to the fifth and fourth centuries B.C. The Buddhist rejection of animal sacrifice and the accent on non-killing of cattle is evident in the *Suttanipāta*, most portions of which belong to pre-Maurya times. But the *Vinaya Piṭaka*, which enables us to analyse the lay following of the Buddha and the social dimensions of recruitment in the Buddhist order, may have been a work of *c.* 300 B.C. or of Maurya times. The *Vinayas* do not continue their historical records beyond the time of the Vaiśālī council,[78] which was convened 100 or 110 years after the death of the Buddha or around 386 B.C. or 376 B.C.[79] The socio-economic nature of Buddhism, as we discern it in the *Vinaya* and some texts anterior to it, shows its clear linkages with the type of material life that developed in the middle Gangetic basin. We have discounted the doubts expressed about the effective use of iron in this zone before *c.* 300 B.C. or so.[80] In any case the socio-

economic aspects of Buddhism, discussed by us, are found in the texts which are not much older than *c.* 300 B.C. Roughly there might be a difference of about a century or so between what happened in the material and the religious fields. Buddhism may well be regarded as a product of the material milieu created by the second phase of the iron age. Negatively it undermined the social and religious practices which hampered the growth of the new material culture and it lent positive support to a detribalized class-based and state-based socio-economic formation that was reared during the second iron phase.

The new agriculture, trade, and the advent of coins naturally enabled both rulers and traders to accumulate wealth and gave rise to economic inequalities. Persons possessing eighty *koṭi* of wealth are frequently mentioned in the Buddhist birth-stories. Buddhism suggests some remedy for poverty. In the *Dīgha Nikāya* a prince is advised not to appropriate something which is not given to him. It is said in this text that if the poor are not able to produce wealth, it leads to poverty, which is at the root of immorality, theft, falsehood, violence, hatred, cruelty, etc. To eradicate such crimes the Buddha advises that farmers should be provided with grain and other facilities, traders with capital, and labourers with adequate wages. These measures are recommended by the Buddha for eradicating poverty from the life of a person in this world. In the next world also prospects are held for the poor. It is said that if the poor give alms to monks they are reborn wealthy.[81]

Finally, we might consider the code of conduct prescribed for monks and their followers. Rules were laid down to regulate the conduct of individual monks as well as their collective functioning in the *saṃgha*. This code seems to have been determined by the material background during the sixth-fifth centuries B.C. in north-eastern India. The code imposed restrictions on the dress, food, housing and sexual behaviour of the monks. Gautama Buddha lays down detailed rules about the clothing of the monks. These are in keeping with developments in weaving, spinning and dyeing in all of which great proficiency had been attained. The *Vinaya Piṭaka* speaks of four varieties of clothing including cotton and woollen textiles, and as many as ten types of colour meant for dyeing.[82] Clothing is considered so important the *Vinaya Piṭaka* devotes a whole chapter to it. The robe of a monk is a patchwork, for torn pieces of cloth are sewn together like the patches of paddy fields, and the colour of the robe is like that of the ripe paddy crop. Rules prescribing the clothing of monks reflect some kind of protest against the possibilities of using new varieties of textiles and leather goods which naturally would be considered luxuries in the context of the

early iron age, but they do not imply the rejection of all clothing. According to the existing practice the brāhmaṇa ascetics used *valkala* and the Jain ascetics kept themselves naked. But, for the Buddhist monks the Buddha recommends three pieces of clothing,[83] which obviously was the clothing used by an ordinary person. In respect of both food and clothing the Buddha suggests that the needs of the monks should be those of an ordinary poor person and not of a rich person. The use of cloth therefore is accepted on a limited scale and reflects a compromise with the realities of this situation. As it appears from the *Vinaya Piṭaka*,[84] at a later stage the monks were allowed to use clothing made of six types of textiles including cotton, wool and hemp.

The personal property of the monks was confined to robes, bowl, bed and medicine. Like Spartan citizens, they could not accept gold and silver in transactions and, like brāhmaṇas, they could not take to buying and selling. These rules were relaxed a century after the death of the Buddha, but the early rules envisage a kind of primitive communism based on low standards of pre-field agriculture, and of pre-trade, tribal life. The code of conduct for monks reflects, to some extent, a reaction against new elements in material life such as the use of money, private property, better standards of living, etc. In terms of those days these would be regarded as luxuries. However these rules do not visualize a complete return to pastoral and pre-field agriculture life. The Pātimokkha section of the *Vinaya Piṭaka* records many instances of transgressions of the rules ordained by the Buddha. Monks are punished for offences committed against family and property and the social order dominated by the king, and the laity who want to get rid of their social obligations or the punishments imposed on them for violating the social norms are not admitted to the *saṃgha*. The order has no place for debtors, slaves, robbers, thieves, soldiers, convicts, killers of parents, and those under twenty years of age.[85] Even ordinary householders are not to be admitted to it without the permission of their parents.[86]

It may be noted that most categories which are denied admission to the Jain monk order are almost the same as the Buddhist ones. Jainism forbids the admission of children, the old, the impotent,[87] fools, the diseased, thieves, offenders against the state, the intoxicated, people incapable of philosophical understanding, slaves, the wicked, the ignorant, the indebted, untouchables (*juṃgita*), prisoners, persons stricken with fear and the abducted disciple.[88] It seems that in later commentaries the term *juṃgita* is explained as covering those who are vitiated because of their caste, action and body.[89] This category includes not only untouchables such as *mātaṅga*, fishermen (*kolika*), *baruḍa*, tailors, dyers, etc., but also certain touchable castes

who are engaged in keeping birds and practising bamboo-work, acrobatics, etc.; this category also includes the handicapped.[90] It is likely that all the castes and professions covered by the term *juṃgita* did not exist in pre-Maurya times, though some untouchables appear in this period. Although in respect of admission to its Order Buddhism seems to have been more liberal, the admission criteria of both Jainism and Buddhism, by leaving some scope for the escape of the dissatisfied, helped the consolidation of the essentials of the class-divided social formation, which had emerged in post-Vedic times. Both Jain and Buddhist rules clearly accepted the new position, in which important social obligations had to be carried out to the advantage of some and to the disadvantage of many.

The rules and teachings meant for the lay followers of Buddhism took full account of the new changes and ideologically strengthened them. Gautama Buddha attaches the greatest weight to the practice of non-violence in the day-to-day conduct of the *upāsaka*. It is said that the lay devotee should perform five sacrifices, to relatives, guests and ancestors, king and the gods. In addition to this the householder is asked to support his clan, family, friends, slaves and hired labourers and to protect himself.[91] Learning of crafts is repeatedly recommended as an important duty of the householder; one of the earliest references is found in the Mahāmaṅgala Sutta of the *Suttanipāta*. The Buddha lays down the economic functions of the housewife too. Girls and brides when they go to their husbands' houses are asked to honour parents, śramaṇas and brāhmaṇas. They are advised to pursue the crafts, involving cotton or wool, produced by their husbands. Further, they are asked to acquire full proficiency in these crafts, implying weaving and spinning, and they are instructed to lend their full cooperation in organizing them. They are also asked to be fully posted with the activities of the servants of their husbands.[92] Gautama Buddha also prescribes the duties of a widow. According to him a widow should be deft in weaving and in preparing balls of wool so that she may support her children after the death of her husband.[93] The economic aspect of the functions recommended by the Buddha for the householders and their wives apparently aim at stabilizing the social order which arose in the second phase of the iron age.

Since Buddhist teachings were propagated by puritan monks they made a greater impact on the common people. The day-to-day puritan conduct of the monks certainly appealed to lay followers, who could easily see the sharp contrast between it and the greedy life of the brāhmaṇas. So, although the code of conduct prescribed for the monks was different from that meant for lay men, the two together basically served the same purpose, the stabilization and

promotion of new elements in the material life of people in middle Gangetic plains during the sixth and fifth centuries B.C.

Undoubtedly the objective of the Buddha's teachings was to secure the salvation (*nirvāṇa*) of the individual. Accustomed to the old ways of life some individuals found it difficult to adjust themselves to the break-up of the old tribal society caused by new material conditions which gave rise to gross social inequalities. For them permanent escape suggested a way out of this state of misery. But this was meant mainly for monks, not for the lay followers of Buddhism. Whatever may have been the ultimate objectives of Buddhism, ordinary people, whose support really mattered to the new religion, were certainly attracted towards it because of its successful response to the challenge posed by the social developments generated by the material conditions created by the use of iron, plough agriculture, and coins and by the rise of towns in eastern UP and Bihar. The only price they had to pay for it was to reserve a part of their produce as alms to the monks, who had renounced production activities but not the fruits of production. Buddhism boosted the new forces of production and supported the resultant polity and society, which could spare sufficient alms for subsistence.

Notes

1 *The Book of Discipline* (*Vinaya Piṭaka*), iv (*Mahāvagga*), tr., I.B. Horner, SBB, xiv, London, 1951, 307.
2 G. R. Sharma, *History to Prehistory*, Allahabad, 1980, pp. 85-7.
3 Ibid., p. 87. For details regarding the nature of productive forces in the age of the Buddha see the preceding chapter.
4 All these details are found in A. B. Keith, *The Religion and Philosophy of the Veda (and Upanisads)*, HOS, XXXI, i, Hindi tr., Suryakant, Delhi, 1963, pp. 348-9.
5 Louis Renou, *Vedic India*, Varanasi, 1971, p. 109.
6 Ibid.
7 Ibid., pp. 101-2.
8 Ibid., pp. 113-14
9 Ibid., p. 105.
10 Ibid., p. 118.
11 Ibid., p. 120.
12 For the nature of references to cattle slaughter in the Dharmasūtras, some of which also prohibit it, see S. C. Banerjee, *Dharma-Sūtras*, Calcutta, 1962, p. 139. The term *goghna* is used in Pāṇini, iii, 4.73; cf. Louis Renou, op.cit., p. 113.
13 *Maitrāyaṇi Saṃhitā*, II.6.5, IV.3; cf. *Śat.Br.*, V.3.1f.
14 *Kāṭhaka Saṃhitā*, XV.4.
15 s.v. *gosava* (*Taittirīya Br.*, II; *Lāṭyāyana, Kātyāyana Śrautasūtra*), Monier-Williams, *Sanskrit-English Dictionary*.

16 s.v. *goyajaña* (*Gobhila, Pāraskara Gṛhyasūtra*), Monier-Williams, op.cit.
17 Rajcchatra Misra, op.cit., pp. 88-9.
18 Ibid., p. 89.
19 *taduhovāca yājñavalkyo śnāmyevāhaṃ māṃsalaṃ cedbhavatīti. Śat.Br.*, III.1.2.21 quoted in Dharmananda Kosambi, *Bhagavān Buddha*, tr. from Marathi, Shripad Joshi, Delhi, 1956, p. 272 and also fn. 1.
20 *Khadira Gṛ.S.*, III.4; *Gobhila Gṛ.S.*, II.10.6; *Baudhā. Gṛ.S.*, II.11.51; *Hiraṇya-keśin Gṛ.S.*, II.15.1; *Vaikhānasa Gṛ.S.*, IV.3. *Āśvalāyana Gṛ.S.*, IV.9.10; *Śānkh. Gṛ.S.*, IV.17.1; V.15.1.
21 *dakkho goghātako vā goghātakantevāsī vā gāviṃ vadhitvā catumahāpathe bilaso vibhajitvā nisinno assa. MN* (Nalanda edn.), iii. 153.
22 *govajjho viya niyyati. Suttanipāta*, ed. and tr. into Hindi, Bhikṣu Dharmarakṣita, Varanasi, 1977, Salla-Suttam, 7 (p. 156).
23 *tato ca rājā saññatto brāhmaṇehi rathesabho, nekasatasahassiyo gāvo yaññe aghātayi.* Ibid., Brāhmaṇadhammika-Suttam, 25 (p. 76).
24 *na pādā na visāṇena nāssu hiṃsanti kenaci, gāvo eḷakasamānā soratā kumbhadū-hanā, tā visāṇe gahetvāna rājā satthena ghātayi.* Ibid., 26. (p. 76). It may be added that both the Brāhmaṇadhammika Sutta and Salla Sutta are ascribed to the pre-Maurya stratum of the *Sutta Nipāta.*
25 *yo hi koci manussesu gorakkham upajīvati, evam vāseṭṭha jānāhi kassako so na brāh-maṇo.* Ibid., Vāseṭṭha-Suttam, 19 (p. 164).
26 *AN* (PTS), i, 230.
27 *Samyutta Nikāya* (PTS), i, 217.
28 *kassako gahapati sīghaṃ sīgham khettaṃ sukaṭṭhaṃ karoti sumatikatan.. sīgham sīghaṃ bījāni patiṭṭhāpeti...sīghaṃ sīghaṃ udakaṃ abhineti vā apaneti vā. AN*, i, 239-40. The term *patiṭṭhāpeti*, as its later connected derivations show, means 'planting'. Letting in and draining out water presuppose wet rice production.
29 Ibid , 239-40.
30 Ibid., 241-42. Based on the translation in the *Book of Gradual Sayings*, PTS, London, 1951, i, 221.
31 Ibid., pp. 221-22.
32 *RV*, I.164.27; VII.68.9; IX.80.2; X.60.11, 87.16.
33 *AV*, III.30.1; cf. XVIII.3.4, 4.49.
34 Uggatasarīra, *Dictionary of Pāli Proper Names*, i.337.
35 *pañca ca vasabhasatāni pañca ca vacchatarasatāni pañca ca vacchatarisatāni pañca ca ajasatāni pañca ca urabbhasatāni thūṇūpanītāni honti yaññatthāya. SN*, i. 75-76.
36 Ibid., 76.
37 *assamedhaṃ purisamedhaṃ sammāpāsaṃ vājapeyaṃ nirggalaṃ mahārambhā na te honti mahapphalā. ajelakā ca gāvo ca vividhā yattha raññare, na taṃ sammaggatā yaññaṃ upayanti mahesino.* Ibid.
38 Ibid., 76.
39 *Suttanipāta* (Varanasi edn), Brāhmaṇadhammika-Suttam, 12 (p. 74).
40 *yathā mātā pitā bhātā aññe vāpi ca ñātakā gāvo no paramā mittā yāsu jāyanti osadhā, annadā baladā cetā vannadā sukhadā tathā, etamathavasaṃ ñatvā nāssu gāvo haniṃsu te.* Ibid., 13-14 (p. 74).
41 *pasubandhā savve veyā jaṭṭham ca pāvakammuṇā, na taṃ tāyanti dussīlaṃ kammāṇi balavantihi*, quoted in Dharmananda Kosambi, op.cit., p. 224.
42 *MN* (PTS), i, 220.

43 *AN*, ii, 49-51.

44 I learn from Dr. Prem Singh that the younger *Avesta* (*c.* 600 B.C.) mentions agricultural implements made of iron, and emphasizes that cattle wealth should be protected.

45 *AN*, ii, 49-51.

46 I have obtained this information from Dr Pratipal Bhatia.

47 S. C. Banerjee, op. cit., pp. 158, 182.

48 Ibid., p. 185. The term *samudra-saṃyāna* is explained by Govindasvāmin as going to another island by boat (ibid.).

49 Dharmananda Kosambi, op. cit., p. 147.

50 Ibid., pp. 145-6.

51 Ibid., p. 146.

52 *Mahāvagga*, (Oldenberg's edn.), p. 4. I owe this reference to Professor Mahesh Tiwari. Also see *AN*, i, 26.

53 *Mahāvagga*, pp. 15-20.

54 I.VI.18.20-2.

55 *Gautama Dh. S.*, II.3.27=XII.27.

56 *The Elders' Verses II Therīgāthā*, tr., K. R. Norman, PTS, London, 1971, p. 44.

57 *soham yāni ca porāṇāni iṇa-mūlāni tāni ca byanti-akāsiṃ, atthi ca me uttariṃ avasiṭṭhaṃ dārabharaṇāyāti. DN* (PTS), i. 71-2.

58 Walpola Rahul, *What the Buddha Taught*, New York, 1962, p. 47.

59 *an-aṇo bhuñjāmi bhojanaṃ. MN*, ii, 116.

60 *uṭṭhehi vīra vijita-saṃgāma satthavāha anaṇa vicare loke. DN*, ii, 39.

61 *so na kassaci kiñci dhāremi appaṃ bahuṃ vāti adhigacchati sukhaṃ, adhigacchati somanassaṃ idaṃ vuccati, gahapati, āṇanayasukhaṃ, AN*, ii, 69.

62 *AN* quoted in Bhagchandra Jain, *Bauddha Samskṛti kā Itihāsa*, Nagpur, 1972, p. 254.

63 *dāliddiyaṃ dukhaṃ loke iṇādānaṃ ca vuccati, daliddo iṇamādāya bhuñjamāno vihaññti. AN*, iii, 353.

64 *tato anucaranti naṃ bandhanaṃ pi nigacchati, etaṃ hi bandhanaṃ. dukhaṃ kāmalābhābhijappinaṃ.*

65 Ibid., 352.

66 *AN*, i, 115-16.

67 *pāpaṇiko cakhumā ca hoti vidhuro ca nissayasampanno ca.* Ibid., 116.

68 *idaṃ paṇiyaṃ evaṃ kitaṃ, evaṃ vikkayamānaṃ, ettakaṃ mūlam bhavissati, ettako udayo'ti.* Ibid.

69 *pāpaṇīko kusalo hoti ketuṃ ca vikketuṃ ca.* Ibid.

70 *'ito, samma pāpaṇika, bhoge karitvā puttadāraṃ ca posehi, amhākaṃ ca kālena kālaṃ annupadehi' ti. evam kho bhikkhave, papaṇiko nissayasampanno hoti.* Ibid, 117. The gist given in the body is based on the translation in the *Gradual Sayings*, i, 100-1. The phrase *bhoge karitvā* is rendered as trading (ibid., 101, fn. 2), obviously on the basis of the Commentary. Similarly in an earlier passage of the same type the term *anuppadātuṃ* is explained in the Commentary as *gahita-dhana-mūlikaṃ vaḍḍhiṃ anuppa.* Incidentally this term is not explained in the *Pali-English Dictionary.*

71 *AN*, *i*, 117.

72 *nā paṇīyamannamaśnīyāt. Āp. Dh.S.*, I.V.17.14.

73 Ibid., I.V.17.15-19.

74 s.v. Ambapālī, *Dictionary of Pāli Proper Names*, 1, 156.
75 XVII.17.
76 *DN*, iii, 93f.
77 s.v. Anāthapiṇḍika, *Dictionary of Pāli Proper Names*, i, 70.
78 A. K. Warder, *Indian Buddhism*, p. 212.
79 Ibid., p. 208.
80 We have considered these reservations in the preceding chapter.
81 These passages have been quoted in W. Rahul, op. cit., pp. 81-82.
82 Cīvarakhandhaka, *Mahāvagga*, pp. 268-311.
83 Ibid.
84 Ibid.
85 *Mahāvagga*, pp. 73-93.
86 Ibid., p. 83.
87 This term covers both *klība* and *napuṃsaka*.
88 Dharmananda Kosambi, op.cit., p. 258.
89 *tathā jāti-karma-śarīrādibhirdūṣito juṃgitaḥ*. Ibid.
90 Ibid., pp. 258-59.
91 *AN*, ii, 45-46.
92 *AN*, iii, 37-38.
93 Ibid.

CHAPTER EIGHT

Trends of Social Evolution in the Epics

The *Rāmāyaṇa* and the *Mahābhārata* together with the Purāṇas, especially the *Bhāgavata*, have played a significant role in educating the illiterate Indian masses in the values of the pre-feudal and feudal societies. Although women and śūdras, who accounted for the overwhelming majority of the population in ancient times as they do even now, were excluded from Vedic studies and the recitation of *mantras*, from the Gupta period onwards they were permitted to listen to the stories and teachings of the epics and the Purāṇas. The *Rāmāyaṇa* taught the people that the son must obey the father, the wife must obey the husband, the younger brother must obey the elder brother, the disciple must obey the teacher, the subjects must obey the king and everybody must obey the dharma laid down in the Dharmaśāstras. Dharma demanded that the member of a varṇa or social class must carry out the duties assigned to him by the social order. The *Rāmāyaṇa* contains the story of a śūdra ascetic Śambūka who was killed by Rāma because he arrogated to himself the practice of asceticism to which he was not entitled. By and large this epic symbolizes the values of a class-divided patriarchal society.

So important became the teachings of the great epic *Mahābhārata* that it came to be called the Veda. On account of its encyclopaedic character it was stated that there is no aspect of knowledge which is not found in the *Mahābhārata*; whatever is not in it does not exist. The *Mahābhārata* tells the story of a long conflict between the Pāṇḍavas who stand for dharmic values and the Kauravas who oppose them in several respects. Yudhiṣṭhira, the leader of the Pāṇḍavas, is called *dharmarāja* or the great upholder of dharma; on the other hand Duryodhana, the leader of the Kauravas, is associated with all kinds of undharmic practices, perhaps of a bygone age. One of the important byproducts of the main narrative in the *Mahābhārata* is the *Bhagavad Gītā*, in which Kṛṣṇa emphasizes the merit of and necessity of carrying out varṇa duties so much so that according to him it is meritorious to lay down even one's life in pursuance of

one's assigned duties. He further stresses that one should be concerned with performing one's duties regardless of rewards or consequences. Contentment offers the greatest measure of happiness. The epics justify the rule of the king on the ground that he upholds the patriarchal family, protects private property and enforces varṇa dharma, and therefore occasionally the king is called Viṣṇu. Obviously the preserving and protecting functions of this god were conceived on the analogy of royal functions.

As will be shown later, the didactic portions of the epics reflect the characteristics of a complex, developed society. But the other portions of the epics contain many things which seem to be at variance with such a society. Many incongruities arise in the epics because of the mixture of the archaic practices of a tribal and stateless society with those of a patriarchal, varṇa-divided and state-based society. A well known case is that of Draupadī having five husbands, which suggests that the Pāṇḍavas were a polyandrous hill people and may not have been the cousins of the Kauravas. It suggests the existence of some kind of matrilineal society which does not fit in with the patriarchal ethos of the great epic. The story of the birth of the five Pāṇḍava brothers through levirate (*niyoga*) also contains remnants of matrilineal practices. This may be also true of the mythical Gautamī or Jaṭilā who is credited with having seven husbands.[1]

In the present form the epics belong to the first four Christian centuries. They contain the main narrative, descriptive accounts and didactic material. The main narrative is interspersed with many mythologies. The main narrative of the *Mahābhārata* might contain genuine echoes of earlier times. It might reflect the tribal state of affairs in later Vedic times, but its descriptive and didactic details relate to the developed societies of post-Maurya and Gupta times. Thus the *Śānti Parva* and *Anuśāsana Parva* of the *Mahābhārata* are called pseudo-epic by Hopkins,[2] who applies the same description to the fourteenth-fifteenth books.[3] He also discards the *Harivaṃśa* and the last two books.[4] Further, Hopkins is inclined to put the greater part of the first book into the same list as that of the last.[5] Similarly the *Bāla Kāṇḍa* and the *Uttara Kāṇḍa* of the *Rāmāyaṇa* seem to belong to Gupta times.

What came to be known as the *Mahābhārata* originally consisted of only 8800 verses, and the text was called *Jaya* or *Itihāsa*. Then it was enlarged to 24,000 verses, and came to be known as the *Bhārata*. Finally it was inflated to 100,000 verses, and came to be called the *Mahābhārata* in Gupta times. A critical edition of this epic has been prepared after 40 years' labour by collating about 40 manuscripts, and it contains 78,675 verses. Out of these only 20,000 verses

cover the conflict between the Kauravas and the Pāṇḍavas. What began as an *Itihāsa-Purāṇa* ended as a great *kāvya* or a work of artificial poetry. Therefore so long as the various strata of the text are not isolated from one another it will be difficult to make use of the great epic for the reconstruction of any social or cultural sequence.

Recently an original epic of 8800 verses has been reconstructed under the title *Ur-Mahābhārata* or *Jaya-Saṃhitā*.[6] The main narrative of the *Rāmāyaṇa* may be older than that of the *Mahābhārata*, but its text as a whole is younger. Originally the *Rāmāyaṇa* had 6000 verses which rose to 12,000; by Gupta times it was inflated to 24,000 verses. Usually additions in ancient Indian texts were made at the beginning and at the end, but even the middle portions were not spared. There have been interpolations galore in the epics and the Purāṇas. They can be identified on the basis of content, style and vocabulary. While the epics record the events in the past tense, the Purāṇas do so in the future tense long after the events had taken place. The process of interpolation went on right up to the late nineteenth century. One version of the present *Bhaviṣyat Purāṇa* states that Queen Victoria would rule India. Therefore in their present forms the epics and similar texts pose a great challenge to critical scholars who have to expose the various layers found in them. The *Ur-Mahābhārata* or the *Jaya-Saṃhitā* tries to restore the archaic atmosphere in many respects, but students of social evolution cannot afford to miss those portions of the *Mahābhārata* which have been discarded either in the preparation of this text or even in that of the Critical Edition.

In the case of the *Rāmāyaṇa* it is difficult to vouch for the historicity of the main narrative. The whole thing is so much overlaid with myths involving monkeys and demons that their rationalization by historians is not an easy task. Those who wish to apply to the *Rāmāyaṇa* myths the anthropological theory that myths and rituals have their roots in reality and that they are illusory representations of human experience in man's encounter with man or nature[7] may face difficulties of analysis and interpretation.

While the didactic and descriptive portions of the *Mahābhārata* can be used for indicating the social and cultural trends in pre-Maurya, post-Maurya and Gupta times, it is difficult to determine the historicity of its main narrative portion dealing with the conflict between the Kauravas and the Pāṇḍavas and attribute it to any definite period. Tradition is the only evidence in favour of the Great War, and it is not contradicted by later Vedic sources. But independent direct evidence for the Great War is wanting.

However it has been assumed by many historians that the Great

War did take place, and several methods have been adopted to fix its date. Astronomical details about the time when it took place are adduced to fix its date around 3120 and 2449 B.C. These details were invented much later, and obviously there cannot be two dates for the same event. The mention of some important *Mahābhārata* personalities in later Vedic texts is taken as evidence of the great antiquity of the war, but these texts belong to 700-600 B.C. Further, on the basis of lists of kings and teacher-pupil lists furnished by the Purāṇas the date of the war is fixed between 1400 B.C. and 950 B.C., but the same list does not occur in all the texts, and we cannot discount the possibility of fictitious lineages. Sober historians place the event in the middle of the tenth century B.C., which is the utmost that can be said about its dating.

Inscriptions found in Western Asia have been of help in determining the date of the *Ṛg Veda*, but no such help is available for fixing the date of the Bhārata battle. The Harappan inscriptions, which were discovered about more than half a century ago, have yet to be deciphered. And during the 1500 years that elapsed between the eighteenth century B.C. when the Harappa culture came to an end and the 3rd century B.C. when Aśokan inscriptions appeared we know of no inscriptions in this country. This is in sharp contrast to the history of Egypt and Mesopotamia, where there is a continuity of epigraphs. The only inscription which speaks of the Bhārata battle is the Aihole inscription of the Cālukya king Pulakeśin of A.D. 634-35. It states that at that time 3735 years had passed since the Bhārata War. According to this the date of the war would work out at 3102 B.C. But a tradition recorded as late as the seventh century A.D cannot be relied upon.

Nor can the problem of the happening of the event or its exact date be solved by archaeology. Vertical diggings made in the Kuru-Pañcāla region give us some idea about the material culture of that area in the first half of the first millennium B.C. If we assume that the *Mahābhārata* war took place around 1000 B.C. we find it difficult to reconcile the material culture revealed by archaeology with that which can be extrapolated from the didactic and descriptive portions of the great epic, especially in respect of crafts and the use of weapons. The didactic and descriptive portions presuppose the existence of towns which are not found in the tenth century B.C. Nor does the material culture described in a large portion of the *Mahābhārata* correspond to that described in the later Vedic texts. The war took place in the Kurukṣetra area in Haryana and involved chiefly the princes and tribes of western UP, Delhi, Panjab and the adjoining areas of Rajasthan, although in the book the princes of almost the whole country are made to join the war. For such a

large-scale war to take place in the tenth century B.C. we have to investigate whether the whole of northern India was inhabited on any scale during this period and whether the existence of means of communication could facilitate the involvement of distant lands and their princes in the war. The first widespread sign of habitation in the Kuru-Pañcāla-Madra-Śūrasena-Matsya area is provided by the finds of the remnants of peoples who used a particular type of pottery called Painted Grey Ware in association with iron spears and arrowheads. By this time more than 700 PGW sites have been located by exploration although only a few have been excavated, and that too only vertically.

Consistent carbon-14 datings show that habitation on a large scale may not have taken place earlier than 1000 B.C. or so. This is the time when we notice the use of iron for purposes of war in the *Mahābhārata* regions for the first time. This roughly fits in with the evidence regarding the use of iron objects on the Afghanistan borders and in Pakistan. If the date of the Bhārata War is placed around 950 B.C., we can say that the *Mahābhārata* heroes used iron weapons. We may suggest that these weapons enabled the Kuru-Pañcāla princes of the upper Ganga basin not only to collect tribute from the people whom they ruled but also to fight amongst themselves for the sharing of gifts and tribute. But archaeology cannot suggest more than this.

Hitherto for purposes of research each epic has been treated as a homogeneous and legitimate unit, and numerous studies have been carried on accordingly. Many textbooks on ancient India carry a chapter called the Epic Age. But the heterogeneous nature of the material in the epics shows that the Epic Age is a misnomer, and the epics can best be studied in terms of stratification, and what, in our opinion, is more fruitful, in terms of broadly known trends in social evolution. In spite of persistent attacks on stages of social evolution and on the comparative methods to establish them in the late nineteenth century, the theory of evolution still holds ground. Now more refinement has been introduced into the evolutionary ladder by way of the elaboration of the concepts of 'band', 'tribe', 'chiefdom', 'state', etc., and because of more thorough field work a few reservations have been expressed about the egalitarian nature of tribal economy, which is no longer called communistic. We are also better informed about the organization of the tribal people who are no longer called primitive. The plurifunctional role of kinship is emphasized ever more than before. Although very few social anthropologists are worried about the processes through which one stage of society passes into or is superseded by the other, many admit the general fact of evolution and also the fact that

matrilineal society was followed by patrilineal society, and tribal society by class-divided and state-based society. The Marxian concepts of class and state and of their emergence are sometimes criticized, and sometimes supported by introducing the new results of tribal studies,[8] but they are never ignored. Many anthropologists and sociologists see only a two-stage evolution. They distinguish between status and contract societies, sacred and secular societies, traditional and bureaucratic societies, folk society and urban civilization.[9] But these categories are too broad for those historians who try to investigate the nature of social formations in the light of the mode of production. Their comparative studies leave little doubt that there were more than two stages of social evolution.

We may now see whether some trends of social evolution can be detected in the epics. For the world as a whole, lineage descent has slipped from matrilineal to patrilineal forms along with the appearance of complex forms of economy and government,[10] although even in matrilineal societies the male element dominates. The polyandry of Draupadī and the case of *niyoga* or levirate through which the five Pāṇḍava brothers were born certainly points to a stage of society in which matrilineal practices were considered important. Of course there is no dearth of references underlining the importance of the patriarchal family in the *Mahābhārata* and particularly in the *Rāmāyaṇa*. Some tribal marriage practices are found in the great epic. For example, we hear of payment for establishing connections with an outsider called *janya* (different from membership of the tribe or *jana*) through marriage. This payment was the responsibility of the whole kin (*jñātidevam*),[11] which again affirms the anthropological finding that marriage was a form of exchange of women between kin-based groups, although in some matrilineal societies it may be an exchange of men.

The *Mahābhārata* gives us clear indications of two types of society, one tribal, and the other a territorial and varṇa-divided state-based society with a system of taxation, a professional army and an administrative apparatus based on the council of ministers and local administrators. The later type of society appears mainly in the *Śānti Parva* and the *Anuśāsana Parva*,[12] though references are not wanting in the other books of the *Mahābhārata*. It was clearly understood that, although taxes constitute the very basis of the state, they can be raised only from settlements, rural and urban, which need favourable attention[13] (which indicates tax concessions) according to the capacity of the state. In this sense therefore the territorial aspect of the state was considered to be crucial. The

varṇa division assumed importance in the sense that only those who practised farming and cattle rearing and carried on trade were generally the source of all taxes. Known by the collective name of the vaiśyas they were almost exclusively identical with the taxpayers. Hopkins was perhaps the first to draw attention to this fact[14] in the context of the didactic portions of the *Mahābhārata*, but a discussion of the evidence needs repetition. It is stated, for example, that a vaiśya who gives a part of his agricultural product to the brāhmaṇa after he has taken out the sixth part (apparently for tax to the state) is released from sin.[15] It is significant that this involves a double burden on the peasantry which has to support both priests and princes including warriors, officials and various kinds of state functionaries. Such a burden however is not imposed on the śūdras, who are asked to give cereals (*anna*) only to priests.[16] The vaiśyas appear as typical taxpayers, to the exclusion of all the remaining three varṇas, in a context in which various tribute-paying princes are compared to taxpaying vaiśyas.[17] We further learn that the vaiśyas served meals to (or provided resources for the maintenance of) the *dvijāti* (most probably brāhmaṇas but this might include kṣatriyas also).[18] In early Pāli texts the *gahapati* may be considered to be the counterpart of the vaiśya, and he is described as a cultivator who pays tax and contributes to the increase in cereal production.[19] Hopkins, who has made a careful and thorough study of the problem, is right to infer that the soldiers were practically exempt from taxation, and that the priests (unless degraded) were exempt by divine law.[20] His conclusion that all taxes 'are drawn from the third estate or people-caste' (vaiśyas)[21] can hardly be challenged. Since agriculture, cattle rearing and trade practised by the vaiśyas formed the source of state income, it was enjoined that steps should be taken to see that all these functions were performed by people along with many hired labourers.[22] It was added that if those following these occupations slackened their efforts, the king would be blamed for this.[23]

It seems that in the age of the Buddha and later, till the end of the Gupta period, the peasantry mainly consisted of the vaiśyas who were the principal taxpayers. In addition, they had to pay to the monks and brāhmaṇas on various occasions. On top of all this, on grounds of religious performances the king could collect taxes from the vaiśyas and śūdras. In the *āpaddharma* section of the *Śānti Parva* it is laid down that if a vaiśya does not perform sacrifice in spite of his possessing many cattle, the king shall seize property from his family for the purpose of sacrifice.[24] For this purpose the king is advised to seize provisions even from the house of a śūdra.[25] There is a general prescription that from all those who

practise low occupations, apparently from the religious point of view (*hīnakarmaṇaḥ*), provisions can be forcibly taken away from the threshing floor, farm land, warehouse or from the place where these are available.[26] It will therefore appear that religion provided to the king an excuse for oppressive taxation.

Apparently out of the taxes raised from farmers, cattle herders and traders and with supplementary income derived from defeated princes it was possible to maintain a professional army. Hopkins rightly points out that 'the soldiering was done by the standing army and mercenary troops'.[27] According to him ordinary people (evidently vaiśyas and śūdras) could form part of 'the resisting mass' but they could not be 'individually marked as fighters, like the warriors'.[28] Several injunctions in the *Sabhā Parva* stress the necessity of providing suitable salary and food provisions for members of the army on time.[29] It is stated that if timely payment to the employees is not made, on account of their miserable condition the employer incurs their displeasure or encounters their resistance.[30] It is further advised that the king should provide for the maintenance of the wives of those who have been killed on the battlefield.[31] In some cases it is also recommended that armymen should be paid in advance.[32]

It is not our purpose to describe the administrative machinery outlined in the didactic sections. Suffice it to say that concern was shown not only about paying the officers but also conferring more honour and salary on those whose work was considered commendable.[33] All that has been stated above is sufficient to demonstrate the presence of strong elements of a class-divided and state-based society in the *Mahābhārata*.

But many references found in the didactic and other *parvas* contain traces of a tribal society, which certainly antedated such a developed society. In many verses the king is called *viśāmpati* or head/protector of the tribe.[34] This title as well as *janeśvara*[35] applied to the king clearly brings out the tribal character of the kingly authority which amounted to chiefdom. If we look at the alignment of princes in the Great War, it is not based on the *maṇḍala* theory of interstate relations as propounded in the *Arthaśāstra* of Kauṭilya or the didactic portion of the *Mahābhārata*. Each one of the camps of the Pāṇḍavas and the Kauravas was mainly formed of their kinsmen and relatives on the maternal and paternal sides.[36] Deep attachment to his kith and kin on the one hand and the necessity of performing his duties as a member of the kṣatriya varṇa or warrior class on the other created a moral dilemma for Arjuna, which was eventually solved at the cost of kinship relations. At any rate, the element of kinship played a vital role in the mobilization of the

rival Bhārata camps, and the institution of the alliance/friendship based on diplomatic considerations does not seem to have been so established as to play an important role. It is therefore obvious that the *maṇḍala* theory was not a characteristic of the tribal polity and society but was an attribute of a complex, non-tribal, state society of post-Vedic times.

Fighting and administration came to be regarded as the exclusive functions of an order called the kṣatriyas only with the establishment of the varṇa-divided society. Several rituals in the epics suggest that even agriculture was practised by princes. Janaka ploughed the sacrificial ground and Duryodhana was advised to do so.[37] Vidura, who was considered to be a very wise person, advises the king to take to agriculture, while his father, mother,[38] friend, sons and servants are asked to adopt other professions. Although this advice may not apply fully to a tribal society, it does suggest an archaic social situation which retained tribal equality in so far as the attitude towards manual labour was concerned. That at an earlier stage fighting was not the exclusive function of any class or the other but of the whole community can also be inferred from a challenge thrown up by a prince called Dambodhava[39] to members of all the varṇas. 'Is there one that wields a weapon and is equal to me in fight, either a śūdra or a vaiśya or a kṣatriya or a brāhmaṇa'?[40] The challenge seems to recall the time when all members of the tribe took up arms without any distinction being conferred on any of its parts.

In the tribal society of the *Mahābhārata* in critical situations, the king is not guided by the advice of the council of ministers, which appears only in the state-based society of the *Śānti Parva*. On the other hand in consonance with tribal practice he consults his kinsmen and friends. It is also interesting to note that in the booty captured by a member of the kin all the other kinsmen claim equal share. This point is forcefully made out when Draupadī is won by Arjuna. The Pañcāla king was told that it was the law among the Pāṇḍavas to share collectively the *ratna* won by anyone of them, and that they did not want to violate this custom.[41]

The *rājasūya* sacrifice celebrated by Yudhiṣṭhira shows the nature of gifts and tributes to which a big tribal chief was entitled. These were called *bali* but comprised mainly *ratna*[42] or prestige objects. Survivals of the tribal practice of gifting presents to the chief by members of the tribal community can be detected in the presentation ceremony described on the occasion of the coronation of Yudhiṣṭhira. We learn that out of love the brāhmaṇas, kṣatriyas, vaiśyas and even the serving śūdras approached Yudhiṣṭhira and made presents to him as a mark of great esteem.[43] Those who

thronged in the house of Yudhiṣṭhira for this purpose included *mlecchas*, members of all varṇas, from top to bottom, and people from different castes and countries.[44] The description shows that even when tribal communities disintegrated into castes and classes, in spite of their new identities the heterogeneous people continued the old practice, which apparently created a sense of cohesion and solidarity.

We have no indications of a system of taxation in the tribal society, of lending money or any other item on interest, or of giving bribes, although all these practices seem to be connected in some way with the original system of mutual gift making. At the same time the tribal chief liberally distributed what he had acquired. Yudhiṣṭhira was prepared to distribute all his wealth for the enjoyment of the people on the occasion of the *rājasūya*,[45] and he made elaborate arrangements for looking after the comforts of the princes and all the others who had assembled on the occasion.[46] In the *aśvamedha* performed after victory, Yudhiṣṭhira gave away to Vyāsa the whole world as sacrificial fee. The sage accepted the offer but ultimately returned it to Yudhiṣṭhira, as the gift was of no use to the ascetic. As will be shown later, we notice a similar reluctance on the part of the priests in the *Rāmāyaṇa* to accept land, which obviously was not considered an item of alienable property at the earliest stage of development. However Yudhiṣṭhira distributed wealth among the brāhmaṇas, paid fees and presents to all and then took a bath.[47] Although this *parva* is considered to be an interpolation,[48] it refers to some older practices. It is likely that these practices were the residue of the convention of sharing of gifts, tributes, booty, game and produce and helped to maintain the exchange system of society; on the other hand the practice of giving the lion's share to the chief and his conspicuous distribution called *potlatch* added to his power, prestige, influence and following, which process eventually elevated him over his ordinary kinsmen and alienated him from them.

The description of the *rājasūya* in the *Sabhā Parva* shows that the princes gave voluntary tributes and presents to Yudhiṣṭhira. This may have also been true of his ordinary kinsmen, if we apply the tribal analogy. On the other hand it is also significant that princes do not ask for gifts. Although not asking for anything is regarded as befitting kṣatriya dharma and this belief existed from time immemorial,[49] it is evident that this is a residue of a tribal stage of society when the chief did not ask for gifts but received them voluntarily from his kinsmen. In the varṇa-divided society, such a theory certainly helped the brāhmaṇas who acquired the almost near monopoly of receiving all gifts to the exclusion of the other three castes.[50]

The *Śānti Parva*, reflecting the state of affairs of a varṇa-divided, state-based society, provides for a regular system of taxation. which is considered to be the foundation of the army. It is stated that dharma, which constitutes the very basis of the state, is derived from the purse.[51] It is emphasized that the powers of the purse and sword are inextricably mixed together. The question is pointedly posed: How can a powerless person possess a purse, and how can an indigent person possess power?[52] Further, from where will a powerless person set up the state and how can a person without territory wield influence?

In the *Śānti Parva* we notice a different type of exchange and distribution. Here we notice a regular system of taxation for the levy of which certain principles are enunciated.[53] What is further important, detailed rules about payment of wages to labourers, herdsmen, etc., are laid down here. In the *Mahābhārata* we have many references to the use of metallic money, which indicates a kind of society with a common medium of exchange to evaluate various kinds of objects. The *Sabhā Parva* states that the *rathīs* received 1000 coins from Yudhiṣṭhira as their monthly pay. The *Ādi Parva* of the *Jaya-Saṃhitā* speaks of *pura*, *paura* and *nagara*, all indicating urbanism. Similarly references to trade and ports called *pattana*[54] indicate a type of society which has nothing in common with the sort of social formation known from later Vedic texts to which period the main narrative portion of the *Mahābhārata* is assigned.

It seems that the major portion of the *Śānti Parva*. compiled as it was in the early centuries of the Christian era, reflects a type of society in which non-tribal characteristics became prominent. The bonds of kinship were undermined by economic factors in a society in which individuals could earn their livelihood and amass wealth by means of agriculture, numerous handicrafts, state service, trade, usury, etc. It is stated that father, mother, sons, maternal uncles, sisters' sons, relations, kinsmen—are all guided by economic considerations.[55] In other words it is not kinship which governs economic relations, but economic relations sustain kinship. A parent discards his dear son if he deviates from duties assigned to him by the law-books or most probably by his varṇa. Everybody protects his own interest; only self-interest is a reality.[56] Love does not appear without a cause; nor does hostility. The whole world of beings is after wealth; nobody is inherently dear to anybody.[57] Brothers born of the same mother, and husband and wife do not love each other without any reason or purpose. In fact there is no person who practises love without any cause.[58] Although all the passages quoted above occur in the *āpaddharma* section of the *Śānti Parva* the statements are put so forcefully that the new dharma

presupposes a new type of society in which kinship obligations are no longer considered necessary to earn a livelihood or to maintain the social order. At other places also in the normal context the primacy of the economic factor is emphasized. It is stated that a person is slave to *artha* (economic gains) and not vice-versa.[59] War is recommended on the ground that it has to be fought for the sake of *artha*.[60] All such passages hardly leave any doubt that the kin-based obligations were being eroded by the need for wealth and livelihood, and that one who widely deviated from his varṇa duties did not have any place in the family system.

Although interaction and mixing between different ethnic elements was a continuous process, once the class-based and state-based agricultural society was established, attempts were made to extend its frontiers by absorbing forest-living aborigines in it. Such peoples are covered by the omnibus term Dasyu. It is recommended that the Dasyus living in the forests should be treated with restraint and honour. It is argued that even the Dasyus' conscience revolts against acts of cruelty perpetrated by others.[61] The other reason given for adopting a conciliatary attitude towards them is that they can easily raise an army through their fierce activities.[62] However the main reason why they could mobilize an army with ease was their tribal organization which entitled every tribesman to fight. Because of these factors the king is advised to give the Dasyus gifts and to treat them with respect, non-violence, etc.[63] It will appear from all this that a well thought-out mechanism of acculturation was evolved in dealing with the Dasyus.

The best example of the inculcation of the norms of brāhmaṇical society among the aborigines in the *Mahābhārata* is provided by the story of a Dasyu Niṣāda chief called Kāpavya, who was born as a Niṣāda from a kṣatriya and yet was called an observer of the duties of a kṣatriya (*kṣātradharmānupālakaḥ*).[64] He achieved the desired end even while leading the life of a Dasyu[65] on account of his missionary activities.[66] Thousands of Dasyu villagers approached Kāpavya and appealed to him to become their village headman. They said, 'With the consent of us all you become our chief village headman.[67] Whatever you will ask us to do we will do that accordingly. You protect us justly like parents.'[68] Kāpavya accepted this responsibility, he imparted a number of instructions to his people, who were probably Dasyus and certainly tribal. These may be quoted in his own words:

> Don't kill women, cowards, children and ascetics. Neither should a non-combatant be killed nor should a woman be seized forcibly.[69] In course of war among all peoples a woman should

never be killed. The interest of cows and brāhmaṇas should always be protected, and for their sake war should be fought.[70] The standing crop should not be destroyed and ploughing operations should not be disturbed.[71]

These instructions clearly underline the role of the converted Kāpavya in assimilating aboriginal people to the brāhmaṇical social order based on plough-using agriculture. It is significant that the tribal people are asked not only to protect and respect the brāhmaṇas, who were the ritualistic and ideological leaders of the varṇa-divided society, but are also asked to protect cattle, so essential for agriculture, because the tribal people were a beef-eating community, Obviously they did not realise the value of agriculture, and in a way Kāpavya asked them to appreciate the importance of plough cultivation.

The frontiers of the class-divided and state-based society were further extended by indoctrinating the tribal people in the values of discipline, coercive power and, above all, of the state. They are told by Kāpavya that *daṇḍa* or coercive authority is meant for introducing order and discipline, and certainly not for killing people. Only those who violate discipline are liable to be killed according to dharma.[72] The vital importance of preserving the state is emphasized by Kāpavya in his teaching to the Dasyus in very strong words: 'Those that secure their subsistence by bringing the state into jeopardy, whosoever they maybe, do themselves perish after accomplishing the fall of the state, as surely as worms when the corpse, which they foster, is destroyed.'[73] On the other hand those Dasyus who act according to the rules laid down in the Dharmaśāstras immediately achieve the desired end in spite of their being Dasyus.[74] It will therefore be seen that the Dharmaśāstras, which formed the moral and legal bedrock of the existing social order, were taught to the Dasyus. Obviously from the point of view of the acculturation of the tribal people the story of Kāpavya (*Kāpavyacarita*) is considered to be very significant, and hence Bhīṣma commends its recital and the observance of the teachings propagated in it.[75]

The social formation, mainly depicted in the *Śānti Parva* and *Anuśāsana Parva*, was held as a model for non-brāhmaṇized tribals who were gradually annexed to it, but it was not free from internal stress and strain. The description of the *yugānta* (end of an era) or the advent of the Kali age in the *Āraṇyaka Parva*, *Śānti Parva*, *Harivaṃśa* and in the Purāṇas should not be dismissed as figments of imagination; they were obviously pointers to a real social crisis, Here we may consider the description of the *yugānta* in the *Śānti*

Parva. The description speaks not only of natural calamities such as drought, lack of water in rivers, lakes, wells, etc.,[76] but also of man-made calamities, caused by robbers, armed bands, and greedy princes.[77] In the *Anuśāsana Parva* the princes are depicted in a lurid light, and provision is made even for killing them. It is said that the subjects should collect together and kill that rascal, reprehensible king who does not extend protection or make gifts but seizes and loots property.[78] It is further stated that the king who having promised protection denies it should be treated like a mad dog and killed by striking him.[79]

It is stated that during this period agriculture, cattle rearing, and external and internal trade would be rooted out; rules of the assembly of townsmen would disappear, and all festivities would stop.[80] Weeping, emaciated, perplexed people would find themselves reduced to mere bones; thickly populated towns would be empty; and houses in the villages would be burnt.[81] Partly because of the activities of robbers, partly because of those of armed bands, partly because of those of greedy princes and on account of mutual fear thickly populated areas would become empty and desolate.[82] It was in such a situation that Viśvāmitra starved and ate the flesh of a dog in the house of a śvapāka.[83] The description suggests that the economic crisis leading to the stoppage of trade and agricultural activities and decline of towns was closely linked with a social crisis caused by the attacks of robbers, armed bands and greedy princes.

A crucial element in this social crisis was the defiant attitude of the members of the producing and paying varṇas, who seem to have offered resistance on account of the confusion of the varṇas or *varṇasaṃkara*. Speaking of a large ideal kingdom which was inhabited by all the four varṇas,[84] it is stated that it had 'no mixing of the varṇas and no mining and no agricultural labour'.[85] This literal meaning of the verse would not make any sense unless we presuppose that *varṇasaṃkara* implied compelling members of the upper varṇas to take to mining and agriculture, which they could legitimately organize but could not actually practise. Some idea of the *yugānta* or Kali age can also be obtained from the *Harivaṃśa*, although it is difficult to say that the relevant descriptions belong to the same period as those given in the *Śānti Parva* and *Āraṇyaka Parva*. For instance it is stated that the warriors (*rājanya*) would function as vaiśyas and live on agriculture and other means of earning property, apparently because they found it difficult to be paid and maintained as warriors and administrators. The brāhmaṇas also, evidently because of lack of gifts from princes and peasants, would take to the functions of the vaiśyas.[86] One verse

from the same source states that the performers of *agnihotra* would enjoy the sacrificial material in advance even before the performance of the sacrifice; this, in our view, would be detrimental to the interests of priests. Further the same verse clearly implies that people would neither make gifts nor pay taxes; on the other hand they would themselves enjoy both,[87] to which, in our opinion, priests and princes were entitled in a state-based, varṇa-divided society. All this may suggest a form of mass upheaval in which the peasants and artisans refused to pay taxes, perform labour service and thus they upset the existing social order. This may have rendered collection of taxes and payment to government officials difficult. The problem was solved through the adoption of the practice of land grants on a large scale.

It is significant that land grants, which assume importance in the epigraphs of the early centuries of the Christian era, appear at several places in the *Mahābhārata* and probably presuppose an element of feudal development, ascribable to Gupta times. We learn that administrative officials were paid in grants of revenue. For example, the officer in charge of 1000 villages enjoyed the grain, gold and other derivable possessions of a minor town for his support.[88] For officers lower down in the hierarchy it is laid down that the lord of a hundred villages should have for his support a large village;[89] grant of land revenue is provided for the head of ten villages and for that of twenty villages,[90] obviously for their fiscal and administrative functions.

Thus even a hurried examination of the *Mahābhārata* suggests the passing of a tribal and stateless society into a class-divided and state-based society with a system of taxation, administrative apparatus, professional army, etc. The idea of the state founded on taxes and army is deep-seated in the *Śānti Parva*. It was realized that the state was rooted in the army and treasury, and the army in the treasury or the taxation system.[91] This presupposes a society in which the vaiśyas and śūdras seem to be the main producers and payers of surplus produce and labour. The *Śānti Parva* suggests that land revenues were unequally divided, but this unequal division did not apply to land itself. However some fiscal and administrative arrangements reflect the beginnings of a society in which landed intermediaries begin to emerge as a class.

Although the *Rāmāyaṇa* is a younger epic, some of its portions look back to the tribal days. The description of the *aśvamedha* sacrifice,[92] to which kings not only from eastern UP and Bihar but also from western and southern India are invited, matches in many respects the description of the same sacrifice in the later Vedic texts. Further, the receiving of *ratna* as tributes and presents from

the princes[93] can be compared to the circulation of prestige goods among the tribal chiefs on ceremonial occasions.[94] Again, the redistribution of wealth and lavish feeding of the people on this occasion[95] can be likened to the tribal custom of *potlatch* which was practised by the tribal chiefs not only to share their wealth with their kinsmen but also to compete with similar chiefs in gaining prestige, influence and following. It is said of Daśaratha that he distributed so much to the poor and dvijas that at the end nothing was left with him except his hand ornament (*hastābharaṇa*), which also he gave to a poor brāhmaṇa.[96] Daśaratha's feast was not confined to his kinsmen and friends but was attended by members of all the varṇas, artisans and citizens of Ayodhyā, and by men and women from various countries.[97] This broader participation in Daśaratha's distributing spree is explained by the fact that, in spite of its attempt to recapture the past, the *Rāmāyaṇa* could not but reflect the social stratification of the early centuries of the Christian era when it was finally compiled.

The larger portion of the *Rāmāyaṇa* however inculcates the norms of a varṇa-divided, state-based society in which the vaiśyas appear as principal producers[98] and taxpayers. The king was expected to fill up his treasury without hurting the brāhmaṇas and kṣatriyas,[99] who were apparently exempted from paying taxes. In fact the nature of polity described in the *Ayodhyā Kāṇḍa* provides not only for ministers, but what is vital to the existence of the state, for a professional army maintained on salary (*vetana*) and food (*bhakta*).[100] Obviously the type of power structure described in the didactic portion of the *Ayodhyā Kāṇḍa* in Sarga 100 presupposes a stage of social evolution which does not appear in Vedic texts.

On the other hand there is no strong evidence for unequal distribution of land on account of land grants to the brāhmaṇas in the *Rāmāyaṇa*. At one place it is stated that Kausalyā enjoyed the revenues of 1000 villages, which was offered to her for supporting her dependants,[101] but the Vedic tradition that generally land could not be an item of gift continued to be effective in the *Rāmāyaṇa*. On the occasion of the *aśvamedha* sacrifice when Daśaratha offered the eastern part of his kingdom to the *hotā* priest, the western part to the *adhvaryu*, the southern part to the brāhmaṇa, and the northern part to the *udgātā*,[102] all of them refused to accept these gifts and sought some other compensation (*niṣkraya*).[103] Accordingly they were given thousands of cows and millions of gold and silver pieces.[104] Apparently this description mixes up three successive strands of social development attributable to three stages. It shows that cattle rearing was still an important form of livelihood and that land was still not commonly regarded as an item of gift

and that metallic money had probably come into use. According to a later Vedic tradition the earth refused to be transferred when it was being given away at a sacrifice, and according to the two epics the priests refused to accept the gift of land at the *aśvamedha* sacrifice. The absence of land transfer supported by some Vedic and epic sources is in consonance with the comparatively simple nature of the PGW material culture and therefore reflects a simple society. On the other hand the use of metallic money, unless all this gold and silver was meant for exchange as prestige objects on the occasion of important ceremonies, shows a society of post-Vedic times when trade, towns and punchmarked coins had come into general vogue and when coins had entered the subsistence economy. Thus some elements of the *Rāmāyaṇa aśvamedha* gift were typical of simple societies and others of complex societies. In any case such accounts and descriptions need to be examined in terms of their significance for social evolution.

The *Rāmāyaṇa* is also important for the description of an archaic institution called *āśrama* which was modified to serve the needs of a developed society. The *āśramas* or abodes of sages (*ṛṣis*) located in the forests outside the precincts of the usual settlements play an important part in the epics and Purāṇas. They were neither set up far away from human settlements nor were they situated in the thick of the forests. The inmates of the *āśramas* lived partly on their foodgathering activities such as the collection of fruits, roots, tubors, etc. When Sītā insisted on accompanying Rāma to the forest he explained to her the nature of the hard life in the forest where one had to obtain subsistence by collecting roots, fruits, leaves, etc.

It is said that in a forest a person is faced with daily hunger.[105] It would therefore appear that Rāma's banishment to the forest implies a kind of reversion to the life of foodgatherers from that of foodproducers. But foodgathering seems to have been substantially supplemented by offerings made by princes, richer people and ordinary folk. Asking for alms from the rural, urban folk, which was introduced by the Jain and Buddhist renouncers on a large scale and which became possible in a society producing agricultural surplus, was also practised by the members of the *āśramas*. The *āśramas*, the counterparts and perhaps the predecessors of the Jain and Buddhist orders, not only provided shelter to renouncers, mainly from the higher varṇas, but also served as educational institutions for princes and others hailing from settled societies. More importantly they acted as radiating centres of brāhmaṇical values and life for the backward tribal people living in the forest belts. But the *āśramas* seem to have been typical of a society in which land rights were not well established. Therefore unlike the *agrahāras*, which

were granted land/land revenues, the *āśramas* did not receive grants, and yet, like the *āśramas*, the *agrahāras* preserved and disseminated elements of the dominant culture and education. However, situated in the neighbouring forest fringes, these abodes of the sages and ascetics were reminiscent of the foodgathering stage of life, in contrast to the *agrahāras* which were located in both settled villages and backward tracts in a feudal milieu in which land had emerged as an item of property. Both the *āśramas* and *agrahāras* enjoyed immunities from the entry of royal agents and soldiers although in the case of the former this privilege did not mean much. In the descriptions of the *āśrama* in the epics and Purāṇas we encounter several features which are characteristic of a food producing economy, but it is clear that the *āśramas* reveal a mode of life which had preceded a cattle rearing and agricultural society.

We have tried to indicate the method by which the epics can be studied. At any rate the fact has to be emphasized that both the *Rāmāyaṇa* and the *Mahābhārata* contain archaic and developed social practices which belong to different social formations. The fact that we have not been able to isolate one type of social practice from the other does some credit to the ingenuity of the authors of the epics and also to elements of continuity in Indian life, but at the same time it also indicates the inadequacies of our methods and approaches. Scholars are bogged down in the search for the imaginary Laṅkā and Ayodhyā of early Vedic times,[107] but although the geographical background is always helpful, it will be more rewarding to examine myths, beliefs, customs and practices in the context of total social relations so that these could be correlated to different types of social formations. Many epic myths serve as social charters which define the rights and privileges of various classes to social and economic power.[108] Though they may have incorporated some tribal elements the myths were evidently developed and refined in a non-tribal social milieu when classes had become deepseated and the state had been established on a firm footing.

NOTES

1 *Ādi P.*, 188.14.

2 Edward W. Hopkins, *The Social and Military Position of the Ruling Caste in Ancient India, as represented by the Sanskrit Epic; with an Appendix on the Status of Woman*, first published 1889, 2nd rpt. Varanasi, 1972, p. 2, fn.

3 Ibid., p. 11.

4 Ibid.

5 Ibid.

6 The *Jaya-Saṃhitā*, i.e., the *Ur-Mahābhārata*, i, redacted by Keshavram K. Shastree, Gujarat Research Society, Ahmedabad, 1977 (henceforth abbreviated as JS).
7 Maurice Godelier, *Perspectives in Marxist Anthropology*, Cambridge, 1977, pp. 50, 217.
8 Maurice Godelier, op.cit., Part II.
9 Max Gluckman, *Politics, Law and Ritual in Tribal Society*, Oxford, 1977, p. 213.
10 Murdocks' factorial study of 577 societies quoted in Maurice Godelier, op. cit., p. 106.
11 *JS*, I.213.40.
12 This aspect was explored by E. W. Hopkins (op.cit.), about a century ago.
13 *...rāṣṭram ca kośabhūtaṃ syāt kośo veśmagatastathā. paurajānapadān sarvān saṃśrito pāśritāṃstathā, yathāśakty anukampet sarvān abhyantarān api. ŚP*, 88.21-22.
14 Hopkins, op.cit., pp. 32-5.
15 *ṣaḍbhāgapariśuddhaṃ ca kṛṣer bhāgam upārjitam, vaiśyo dadad dvijātibhyaḥ pāpebhyaḥ parimucyate. Anu.P.*, 113.16.
16 *avāpya prāṇasaṃdehaṃ kārkaśyena samārjitam, annaṃ datvā dvijātibhyaḥ śūdraḥ pāpātpramucyate. Anu.P.*, XIII.13.17.
17 *tathā hi ratnāny ādāya vividhāni nṛpā nṛpaṃ, upatiṣṭhanti kaunteyaṃ vaiśyā iva karapradāḥ. Sabhā P.*, 43.25.
18 *yajñe tasya mahārāja pāṇḍuputrasya dhīmataḥ, vaiśyāiva mahīpālā dvijātiparive-ṣakāḥ, JS*, II.30.30.
19 *kassako gahapatiko kārakārako rāsivaḍḍhako. DN*, i, 61; *AN*, i, 229 quoted in s.v. *kassaka*, Davids and Stede, *Pali-English Dictionary*.
20 Hopkins, op.cit., p. 33.
21 Ibid.
22 *kṛṣigorakṣyavāṇijyaṃ yaccānyat kiṃcidīdṛśam, puruṣaiḥ kārayet karma bahubhiḥ saha karmibhiḥ. ŚP*, 89.23.
23 Ibid., 24.
24 *kuṭumbāttasya taddrāyaṃ yajñārthaṃ pārthivo haret. ŚP*, 159.7 cf. Manu, XI.12.
25 Ibid.
26 *khalātkṣetrāttathāgārādyato vāpyupalabhyate*. Ibid. 11. The term *upalabhyate* has been adopted on the basis of *Manu*, XI.16.
27 Hopkins, op.cit., p. 38.
28 Ibid.
29 *kaścid balasya bhaktaṃ ca vetanaṃ ca yathocitam, samprāpta kālaṃ dātavyaṃ dadāsi na vikarṣasi. Sabhā P.*, 5.38.
30 *kālātikramaṇād dheyate bhaktavetanayorbhṛtāḥ, bhartuḥ kupyanti daurgātyātso' nartaḥ sumahān smṛtaḥ*. Ibid., 39.
31 Ibid.
32 *balasya ca mahārāja dattvā vetanamagrataḥ*. Ibid., 48.
33 *kaściтpuruṣakāreṇa puruṣaḥ karma śobhayan, labhate mānam adhikaṃ bhūyo vā bhaktavetanam*. Ibid., 42.
34 *JS*, I.127.15; 145.4; 152.11; 176.33; 187.20; 22; 184.4; 194.113; 196.23; 197.25; 198.13; 205.5.
35 *JS*, I.124.1; 187.15.
36 *Bhagavad Gītā*, I.26-40.

37 R. S. Sharma, *Śūdras in Ancient India*, 2nd revd. edn., Delhi, 1980, p. 54.

38 *pitur antaḥpuraṃ dadyān mātur dadyān mahānasam, goṣu cātmasamaṃ dadyāt svayam eva kṛṣim vrajet, bhṛtyair vāṇijyācāraṃ ca putraiḥ seveta brāhmaṇān.* Udyoga P., 38.12.

39 *Udyoga P.*, 94.5-6.

40 *asti kaścid viśiṣṭo vā mad vidho vā bhaved yudhi, śūdro vaiśyaḥ kṣatriyo vā brāhmaṇo vāpi śastrabhṛt. Udyoga P.*, 94.7.

41 *pārthena vijitā caiṣā ratnabhūtā ca te sutā eṣaḥ naḥ samayo rājan ratnasya sahabhojanam, na ca taṃ hātumicchāmaḥ samayaṃ rājasattama. JS*, I.187.23-24.

42 *JS*, II.43.25; cf.45.15ff.

43 *prītyarthaṃ brāhmaṇāścaiva kṣatriyāśca vinirjitāḥ, upājahnurviścaiva śūdrāḥ śuśrūṣavo'pi ca, prītyā ca bahumānācca abhyagacchan yudhiṣṭhiram. Sabhā P.*, 48.32.

44 *sarve mlecchāḥ sarvavarṇā ādimadhyāntajāstathā, nānādeśasamutthaiśca nānājātibhir āgataiḥ, paryasta iva loko'yam yudhiṣṭhiraniveśane*, Ibid., 33.

45 *JS*, II.32.2.

46 *JS*, II.30.26ff; 31.18ff

47 *Āśvamedhika Parva* (P. C. Roy's edn.), Ch. 88, p. 168; cf. *JS*, Introduction, p. 16.

48 Only 606 verses are included in the *Jaya-Saṃhitā*. See Introduction, p. 23.

49 *na hi yācanti rājāna esa dharmaḥ sanātanaḥ, na cāhaṃ hātumicchāmi kṣātradharmaṃ kathaṃcana. Āraṇyaka P.*, 152.9.

50 Hopkins, op.cit., p. 36, fn.*

51 *kośāddhi dharmaḥ kaunteya rājyamūlaḥ pravartate ŚP*, 131.1.

52 *abalasya kutaḥ kośo hyakośasya kuto balam, abalasya kuto rājyamarājñaḥ śrīḥ kuto bhavet. ŚP*, 131.4.

53 D. N. Jha, *Revenue System in Post-Maurya and Gupta Times*, Calcutta, 1967, pp. 22-4, 28, 32.

54 *JS*. I.143.24; cf. 177.12.

55 *arthayuktyā hi dṛśyante pitā mātā sutāstathā, mātulā bhāgineyāśca tathā sambandhibāndhavāḥ. ŚP*, 136.139.

56 *putram hi mātāpitarau tyajataḥ patitaṃ priyaṃ, loko rakṣati cātmānaṃ paśya svārthasya sāratām.* Ibid., 140.

57 *kāraṇātpriyatāmeti dveṣyo bhavati kāraṇāt, arthārthī jīvaloko'yaṃ na kaścitkasyacitpriyaḥ.* Ibid., 145.

58 *sakhyaṃ sodarayorbhrātrordampatyorvā parasparam, kasyacinnābhijānāmi pritiṃ niṣkāraṇamiha*, Ibid., 146.

59 *arthasya puruṣo dāso dāsasatvartho na kasyacit. Mbh.*, VI.41.36, 51, 77.

60 *teṣāmarthe mahārāja yoddhavyamiti me matih.* Ibid., 67, 77.

61 *dasyavo'pyupaśaṅkante niranukrośakāriṇaḥ. ŚP*, 131.11.

62 *dasyunāṃ sulabhā senā raudrakarmasu bhārata.* Ibid., 10.

63 Ibid., 14.

64 *ŚP*, 133.3.

65 Ibid.

66 *ŚP*, 133.10-11.

67 *grāmaṇirbhava no mukhyaḥ sarveṣāmeva saṃmataḥ.* Ibid., 11.

68 *yathā yathā vakṣyasi naḥ kariṣyāmastathā tathā, pālayāsmānyathānyāyaṃ yathā mātā yathā pitā.* Ibid., 12.

69 *mā vadhiṣṭvaṃ striyaṃ bhīrūṃ mā śiśuṃ mā tapasvinam, nāyudhyamāno hantavyo na ca grāhyā balātstriyaḥ*. *ŚP*, 133.13.

70 *sarvathā strī na hantavyā sarvasattveṣu yudhyatā nityaṃ gobrāhmaṇe svasti yoddhavyaṃ ca tadarthataḥ*. Ibid., 14.

71 *sasyaṃ ca nāpahantavyaṃ sīravighnaṃ ca mā kṛthāḥ*. Ibid., 15.

72 *śiṣṭyarthaṃ vihito daṇḍo na vadhārthaṃ viniścayaḥ, ye ca śiṣṭān prabādhante dharmasteṣām vadhaḥ smṛtaḥ*. Ibid., 20.

73 Ibid., 21.

74 Ibid., 22.

75 Ibid., 23-6.

76 *ŚP*, 139.14-18.

77 Ibid., 21.

78 *arakṣitāraṃ hartāraṃ viloptāram adāyakam, taṃ sma rājakaliṃ hanyuḥ prajāḥ saṃbhūya nirghṛṇam*. *Anu. P.*, 60.20 (?). This verse should be numbered 19 as it comes after 18.

79 *ahaṃ vo rakṣitety uktvā yo na rakṣati bhūmipaḥ, sa saṃhatya nihantavyaḥ śveva sonmāda āturaḥ*. Ibid., XIII.60.20.

80 *utsannakṛṣigorakṣyā nivṛttavipaṇāpaṇā, nivṛtapūgasamayā saṃpraṇaṣṭamahotsavā*. *ŚP*, 139.19. On the one hand the *Harivaṃśa* states that in the Kali age all people would become traders because of the abundance of infertile land (*uṣarābahulā bhūmiḥ panthāno nagarāntarā, sarve vāṇijakāścaiva bhaviṣyanti kalau yuge*. 116.19). This might imply increasing trade in Kuṣaṇa and Sātavāhana times.

81 Ibid., 20.

82 *kvaciccoraiḥ kvacicchastraiḥ kvacidrājabhirāturaiḥ, parasparabhayāccaiva śūnyabhūyiṣṭhanirjanā*, Ibid., 21.

83 Ibid., 26-27.

84 *Ādi P.* (Cr. Edn.), 62.3-5.

85 *na varṇasaṃkaro na kṛṣyākarakṛjjanaḥ*, *Mbh.* I.68.6 (Bombay edition) quoted in E. W. Hopkins, op.cit., p. 30 fn.* The verse quoted by Hopkins makes better sense than the one in the Critical Edition, which runs thus: *na varṇasaṃkarakaro nākṛṣyakarakṛjjanaḥ*. *Ādi P.* (Cr. edn), 62.6.

86 *vaiśyācārāśca rājanyā dhanadhānyopajīvinaḥ, yugāpakramaṇe pūrvaṃ bhaviṣyanti dvijātayaḥ*. *Harivaṃśa*, 116.27.

87 *akṛtāgrāṇi bhokṣayanti narāścaivāgnihotriṇaḥ, bhikṣāṃ balimadattvā ca bhokṣayanti puruṣāḥ svayam*. *Harivaṃśa*, 116.39 (?). The verse is unnumbered, but it should number 38, the preceding one being 37.

88 *ŚP* (Cr. edn.), 87.7-8.

89 Ibid.

90 Ibid., 87.6.

91 *rājñaḥ kośabalam mūlaṃ kośamūlaṃ punarbalam*, *ŚP* (Cr. edn), 128.35.

92 *Bāla Kāṇḍa*, Sargas 13 and 14.

93 Ibid., 13.35.

94 Max Gluckman, op.cit., pp. 67-70 ff.

95 *Bāla Kāṇḍa*, 14.11-18.

96 Ibid., 14.54-55.

97 Ibid., 13.11, 13-15; 14.12-13, 16.

98 *Ayodhyā Kāṇḍa*, 100.47-48.
99 *Bāla Kāṇḍa*, 7.13.
100 *Ayodhyā Kāṇḍa*, 100.32-33. The two verses, 32-33, are almost exactly the same as in the *Sabhā Parva* (Cr. edn.), II.5.38-39. Obviously the maintenance of a paid standing soldiery was considered indispensable to the existence of the state by ancient thinkers.
101 *Ayodhyā Kāṇḍa*, 31.22.
102 *Bāla Kāṇḍa*, 14.43-44.
103 Ibid., 47-49.
104 Ibid., 50-51.
105 *Ayodhyā Kāṇḍa*, Sargas 30-31.
106 Ibid., Sarga, 18.
107 Incidentally recent excavations show that Ayodhyā was not inhabited on any scale before the sixth century B.C., i.e., the beginning of the NBP phase.
108 Cf. Gluckman, op.cit., p. 26.

Conclusion

We have tried to explore the nature of linkages between modes of material life and stages in society in Vedic and post-Vedic times. For the early Vedic period, the age of the *Ṛg Veda*, it has not been possible to identify any material culture revealed by archaeology satisfactorily. Although the Panjab, Pakistan and parts of Afghanistan represent the geographical area of the *Ṛg Veda*, archaeological relics indicating the advent of new peoples in this area between the end of the Harappa period and the appearance of the Painted Grey Ware have been very limited so far. Several artifacts of exotic association appear in the late Harappa period, but signs of a large-scale archaeological confrontation between the Harappans and the *Ṛg Vedic* people are lacking. A few excavated sites in the Panjab and Haryana indicate the interlocking of the Painted Grey Ware, without iron, with the pottery in the late Harappan tradition, but these finds, though important, do not provide any satisfactory archaeological counterpart to the material culture known from the *Ṛg Veda*. We may reasonably expect parts and fittings of chariots, considerable remains of horses, and large-scale cattle remains including bones and cow dung ashes from the sites associated with the activities of the Ṛg Vedic people, but so far such discoveries have not been made.[1] Hence we have relied mainly on whatever we know about the forms of subsistence and methods of distribution mentioned in the *Ṛg Veda*, which has been studied with the aid of comparative Indo-European and Indo-Aryan linguistics and in the light of important findings made about tribal societies.

Our study has not resulted in any startling revelations. In our view, the Ṛg Vedic society reflected in the central portions of the first Veda was primarily pastoral. The people were semi-nomadic; their chief possessions consisted of cattle and horses. Cattle were considered to be synonymous with property, and a wealthy person was called *gomat*. Wars were fought for the sake of cattle, and were therefore called *gaviṣṭi*, *gaveṣaṇa*, etc. The rājā, whose main duty was to protect cows, was called *gopa* or *gopati*. The cow was so important

to the family that the daughter was called *duhitṛ*, that is one who milks. So intimate was the acquaintance of the Vedic people with the kine that when they came across the buffalo in India they called it *govala* or cow-haired. In contrast to references to cows those to agriculture are fewer in the *Ṛg Veda*. Of the twenty-one references to agriculture in the *Ṛg Veda* only a few belong to its original kernel. Book IV speaks of the use of the plough, but it is considered to be a late addition to the Family Books. Plough cultivation seems to have been a subsidiary source of sustenance in the *Ṛg Veda*. Although agriculture, probably carried on with the hoe or the wooden ploughshare, was known, there is no doubt that cattle rearing was the main source of subsistence. It is held that on a world scale agriculture preceded pastoralism, especially nomadism characterized by the combined domestication of cow and horse, but the Indo-European linguistic evidence leaves little doubt that the Aryans hardly knew agriculture before their dispersal. The early Vedic evidence points more or less towards the same direction.

The domestication of the cow and horse did not enable the Ṛg Vedic people to attain the advanced stage of nomadism that characterized the Mongolians. The Mongolians were excellent horseriders, used as they were to metal stirrups, but horseriding does not appear to be widespread in the *Ṛg Veda*. The leaders of the Vedic people were mainly charioteers, who fought perpetual intertribal and intra-tribal wars. War was an important source of livelihood, and booty production was the only other important source of subsistence in addition to what they obtained from cattle rearing. By and large the early Vedic society had a non-food producing economy. The term *anna* is used at several places in the *Ṛg Veda*, but it should be understood in the sense of eatables or edible things and not in the sense of cereals; this meaning was attributed to it when people began to produce foodgrains at a later stage. In an economy based on cattle rearing, supplemented by agriculture, and buttressed by acquisition of booty, tribesmen could afford only occasional presents for their chiefs. There is no mention of the gift of land, either on the part of the tribal community or the tribal chief. The main income of a chief or a prince came from the spoils of war. He captured booty from enemy tribes and exacted tributes from hostile tribes and tribal compatriots. The offering of tribute received by him was called *bali*. It seems that tribal kinsmen gave allegiance and voluntary presents to the tribal chief. In return the chief led them from victory to victory and stood by them in difficult times. The respect and occasional gifts received by the prince from his tribesmen may have become customary in Vedic times, but defeated hostile tribes were

compelled to pay tributes. Periodical sacrifices provided an important occasion for the distribution of those gifts and tributes. The lion's share went to the priests in lieu of the prayers they offered to the gods on behalf of their patrons. At one place in the *Ṛg Veda* the god invoked is asked to bestow wealth only on priests, princes and sacrificers. This suggests an attempt at unequal distribution. Princes and priests wanted to grab more at the cost of their fellow tribesmen, although people voluntarily gave a larger share to their chiefs and princes out of deference and because of their military qualities and services. Ordinary members of the tribe received a share which was known as *aṃśa* or *bhāga*. The property was distributed in folk assemblies, which were attended by the rājās and their clan companions.

Although artisans, peasants, priests and warriors appear even in the earlier portions of the *Ṛg Veda*, society as a whole was tribal, pastoral, semi-nomadic and largely egalitarian. The dominance of the tribal character is indicated not only by the use of the term *pañcajanāḥ* or five tribes but also by other similar terms. As shown earlier the terms *jana*, *viś*, etc., are frequently used in sharp contrast to varṇa which came to be understood later in the sense of social order. It is likely that at some stage the tribal society was preceded by the band society. Several terms used in the *Ṛg Veda* indicate the coming together of unidentified people for purposes of fighting and probably hunting. These are *vra*, *vrāta*, *śardha*, *grāma*, etc. The terms *gotra*, *vrāta* and *vrāja* show that people came together for cattle herding. The semantic history of the term *gotra* clearly shows that the need for procuring subsistence eventually led to the formation of clans. Literally the term means cow pen or enclosure. It appears that those who had joined hands to rear cattle or to keep them together eventually found it convenient to form a kin-based unit called clan or *gotra*. This may be compared to the transformation of occupational guilds into castes in early medieval times. Whatever may be the nature of evidence regarding the existence of 'band,' there is no doubt that early Vedic society was largely tribal.

Spoils of war and cattle constituted the main forms of property. Cattle, horses and women slaves were generally given as gifts. Gifts of cereals are hardly mentioned because these were not produced in any large quantity. Therefore apart from the booty captured in wars, there was no other substantial source for the maintenance of princes and priests. Some of them possessed a large number of horses and kine and rode chariots, and hence they were *maghavans*. Brāhmaṇas and kṣatriyas, who are mentioned in the *Ṛg Veda* a few times, mark the beginning of high ranks. Princes and priests

employed female slaves for domestic service, but their number may not have been large. Society did not have a serving order in the form of śūdras. Perpetual war and pastoralism brought the patriarchal element to the forefront and relegated women to a lower status. But if we go by the evidence regarding the possession and distribution of means of subsistence in the nuclear portions of the *Ṛg Veda* it was in the main an egalitarian society, free from large validating sacrifices, and, what is more important, from the later institution of social classes called varṇa.

In later Vedic times, 1000-500 B.C., western UP and the neighbouring areas of Panjab, Haryana and Rajasthan became the centre of material and cultural activities. Those Painted Grey Ware people who used iron represent the later Vedic people. Geographically and chronologically the later Vedic phase coincides with the PGW-iron phase, and the material culture indicated by the Vedic texts is similar to that known from PGW-iron archaeology. We notice the beginning of the use of iron in northern India from about 1000 B.C. onwards mainly for war and hunting. Although the later Vedic society was agricultural and sedentary, iron does not seem to have contributed substantially to the progress of crafts and agriculture. The PGW-iron phase did not mark the beginnings of the urban age in India. Some baked bricks belonging to this phase have been reported from a few places, but generally after the end of the Harappan culture baked bricks do not appear in northern India till *c.* 300 B.C.

By the time the Vedic people moved from Afghanistan and Panjab to the Indo-Gangetic divide and the upper Gangetic plains they took to agriculture on a large scale. In later Vedic times we notice continuous settlements for two to three centuries, as is attested by PGW-iron settlements. Various kinds of pots and rice and other cereals discovered at excavated PGW sites leave no doubt that even these were rural settlements. This gave rise to territorial chiefdoms. Obviously the chiefs used iron weapons, which have been discovered in sufficient numbers, to fight their rivals and also possibly to collect tribute from their tribesmen; iron tools were not used widely for purposes of crafts, clearance and cultivation. Hence the amount of tribute, in cereals, could not be large. But these were sufficient to enable the princes to perform sacrifices and reward their priests. The great public sacrifices such as the *aśvamedha, rājasūya vājapeya*, etc., prescribed in the later Vedic texts and attributed to various kings both in these texts as well as the epics not only validated the authority of the chiefs but also involved an ostentatious display of whatever was considered to be material wealth at that stage. They could not have been performed without a steady supply of

cattle, cereals and various other materials. These sacrifices mostly benefited the kinsmen of the chief and his priests, who naturally were raised above the members of the *viś*. The later Vedic peasant paid to the nobles and warriors called rājanyas who in their turn paid to the priests; in addition, he also paid sacrificial fees to the priests. The peasant supplied food for smiths, chariotmakers and carpenters, who mainly served the emerging class of warriors. But the later Vedic peasant or vaiśya could not contribute to the rise of trade and towns; this feature became prominent in the age of the Buddha. Later Vedic society did not know the use of metallic money.

The Vedic communities had established neither a taxation system nor a professional army. They did not have regular collectors of taxes apart from the kinsmen of the prince. Payment made to the king was not much different from the sacrificial offering made to the gods. The tribal militia of the pastoral society was replaced by the peasant militia of the agricultural society. The *viś* or the tribal peasantry formed the *senā* or the armed host. The peasantry in later Vedic times was called force (*bala*). The army to protect the *aśvamedha* horse comprised both the kṣatriyas and the *viś*. Armed with bows, quivers and shields, the former acted as military captains and leaders; armed with sticks, the latter constituted the rank and file. For the sake of victory the chief or noble was asked to eat from the same vessel with the *viś*. In consonance with tribal practices the rājās were expected to extend agriculture and even lend their hands to the plough, so that the gap between the rājanya and the vaiśya was not wide.[2] The king or the great tribal chief could not grant land without the consent of his clansmen who evidently constituted the peasantry. Apparently the distinctions between the rulers and the ruled had not been sharpened. The priests stressed through rituals the subjection of the peasantry or the *viś* to the warrior nobles, but at this stage the process of turning the tribesmen into taxpaying peasants was very weak.

On account of the use of the wooden ploughshare and indiscriminate killing of cattle in sacrifices the peasants did not produce much, over and above their needs. They suffered from a few other constraints on production. Although the use of iron was known, it seems to have been used mainly for the purposes of war. It could not contribute much to production because the sources of the supply of iron ores in the periphery of the upper Gangetic basin were limited. Secondly, the art of carburization had not progressed much, with the result that iron weapons were not so effective. Consequently the role of iron seems to have been very limited in production. Further, although the later Vedic people grew rice, *vrīhi* was a rainy season crop and its yield was limited on account

of its being sown in the field. Obviously the people did not know the art of paddy transplantation or wet paddy production, which appeared later as a winter crop. Under the circumstances the agricultural yield was limited, and so was the capacity of the cultivators to pay to the princes and priests. Naturally the peasants could not pay regular taxes.

As the later Vedic phase was based on agriculture and the limited use of iron, it marked the transition of the tribal states into territorial states and the gradual disintegration of the tribal society into class and occupational groupings. Apart from the ability of the great chiefs to perform public sacrifices, a striking feature of the later Vedic society is the dominance of priests who were divided into sixteen classes headed by the brāhmaṇas. This development may have been the result of the integration of the Vedic with the non-Vedic people among whom the magic priests, so common in the *Atharva Veda*, played an important part.

In the age of the Buddha eastern UP and Bihar became the epicentre of the manufacture of wrought iron, minting of coins and the use of Northern Black Polished (NBP) ware which was evidently meant for the richer sections of society. All these changes transformed the material life of the people. Some iron artifacts indicate the acquaintance of its users with the iron ores of Singhbhum and Mayurbhanj, which shows that, by the middle of the first millennium B.C. approximately, people had become familiar with working the richest iron mines in south Bihar. The blacksmiths learnt to put more carbon in the iron artifacts which became more serviceable. In a way the age of the Buddha marked the beginning of the second phase in the history of iron when its use was substantially extended to cover crafts, clearance and cultivation. Of course such iron tools, though mentioned, in early Pāli and Sanskrit texts, have not been found in sufficiently large numbers in the middle Gangetic basin, but their corrosion and even disappearance are easily explained by the moist, humid soil in which they came to be placed. The widespread use of iron helped the clearance of the thickly forested area of the middle Gaṅgā basin, and the use of the iron ploughshare led to the production of considerable surplus. People practised paddy transplantation or wet paddy production which doubled the yield. All this led to the establishment of large rural settlements and paved the way for the rise of towns in the middle Gangetic basin or Majjhimadeśa around the sixth century B.C. What is overwhelmingly important from our point of view in *c.* 500-300 B.C. is not the complete break with the elements of the material life of the chalcolithic settlements, which in any case had a shorter life and were much smaller in number in the alluvial soil of the middle Gangetic

basin, but considerable clearance followed by the burgeoning of rural settlements, as evidenced by the reported finds of nearly 450 NBP sites in the middle Gangetic basin and its periphery.[3]

The new agricultural techniques coupled with the use of force enabled some people to acquire large stretches of land which needed a vast number of dependent labourers. In Vedic times people cultivated their fields with the help of their family members; there is no word for wage earner in Vedic literature. But dependent labour consisting of slaves and wage earners engaged in cultivation became a regular feature in the age of the Buddha. In the Maurya period they worked on large state farms. Probably 150,000 people captured in Kaliṅga by Aśoka were drafted for work in farms and mines. But by and large slaves in pre-Maurya India were meant for domestic work. Generally the small peasant played the dominant role in production, although some rich landowners used the services of slaves and hired labourers.

In post-Vedic times peasants produced much more than they needed for their subsistence. This created conditions for the rise and upkeep of large territorial states called *mahājanapada*. A good part of the agricultural produce was collected from the peasants by princes and priests. For regular collection administrative and religious methods were devised. The king appointed tax-collectors to assess and collect taxes. The taxation and administrative machinery was backed by the transformation of the tribal militia into a professional army. But all this was not considered sufficient to secure the obedience of the taxpayers and others. It was also found advisable to create public opinion and develop some kind of consensus in favour of the state symbolized by the king. People, whose tribal trait of equality had not disappeared completely, had to be convinced that it was necessary to obey the rājā, pay him taxes and offer gifts to the priests. For this purpose the varṇa system was devised. The system of this social control promoted the ideology of hierarchy, of inferiority and subordination, which characterizes a class society. Further, members of the three highest varṇas or orders were distinguished ritually from those of the fouth varṇa. The twice-born were entitled to Vedic studies and investiture with the sacred thread, and the fourth varṇa or the śūdras were excluded from it. They were meant to serve the higher orders, and were branded as born slaves. Thus in the Graeco-Roman context the twice-born can roughly be called citizens and the śūdras non-citizens.

Distinctions between citizen and citizen in the ranks of the twice-born however grew. The kṣatriyas, who occupied the second ritualistic rank in the brāhmaṇical system, asserted their primacy in the Jain and Buddhist texts. Hurt by the vanity of the brāhmaṇas and

keen on retaining their larger share of the taxes, tributes, tithes and labour supplied by the peasants and artisans, the kṣatriya chiefs and princes were involved in occasional feuds with the priests, but both the higher varṇas resolved their conflicts to their mutual benefit. Although we have several instances of princes ploughing the field, though in a ritualistic context, and although tradition continued in the form of *vappa-maṅgala* even in the age of the Buddha and later, as time passed the two higher varṇas, especially the brāhmaṇas, were not allowed to take to the plough and manual work. Gradually the abhorrence of the higher varṇas for manual work reached such limits that they developed contempt for the hands that practised crafts and thus came to look upon some manual labourers as untouchables. The more a person withdrew from physical labour, the purer he came to be considered. The vaiśyas, although members of the twice-born group, worked as peasants, herdsmen and artisans and later as traders. What is more important, they were the principal taxpayers whose payments maintained the kṣatriyas and brāhmaṇas. On both these counts they differed from the Graeco-Roman citizens who were neither required to pay taxes nor engage themselves in primary production as a general rule. The varṇa system authorized the kṣatriya to collect taxes from the peasants and tolls from traders and artisans, which enabled him to pay his priests and employees in cash and kind.

The brāhmaṇical varṇa ideology was a clever device for regulating production, tax/gift collection and distribution. But it carried discriminatory legislation too far, with the result that it hindered new material changes. Compared to it the important Buddhist lay teachings helped the new material and social order, and also tried to soften the rigours of the varṇa system. The progress of iron plough agriculture depended on the preservation and augmentation of cattle wealth. But the Vedic rituals prescribed large-scale sacrifice of cattle, and the pre-Aryans domesticated cattle not for dairy products and agriculture but for non-vegetarian food. Therefore the Buddhist texts found it necessary to lay stress on non-injury to animals. The earliest *Pāli* text *Suttanipāta* states that cattle should be protected because they provide food, strength, beauty and happiness (*annadā*, *baladā*, *vannadā* and *sukhadā*.)

The rise of towns was accompanied by the use of the metallic money, mainly of silver, from the fifth century B.C. onwards. The use of money facilitated trade and helped the emergence of traders and merchants. Urbanization received further impetus in the middle of the NBP phase around 300 B.C. when we encounter more iron tools for crafts and agriculture, more and more punchmarked coins and the beginning of the use of fire-baked bricks and ring-wells.

But the brāhmaṇical ideology favoured neither trade nor the use of money. A brāhmaṇa who lent money on interest was strongly denounced. The reality was recognized in Buddhist teachings. Moneylending was not condemned in the Buddhist texts, and the Buddha advised the householder to repay his debts and barred the admission of the debtor to the *saṃgha*. Slaves were also not allowed to run away from their obligations and join the Order. Hence Buddhism favoured both moneylending and slave-keeping, and its teachings meant for the lay followers smoothened the course of the new social and economic changes.

But Buddhism imposed restrictions on the conduct of its monks. Their personal property was confined to robes, bowls, paddy and medicine. Like the citizens of Sparta, they could not accept gold and silver in transactions. They could not buy and sell. In a way the monks were asked to return to an archaic, tribal life bereft of the use of money, private property and luxury in terms of material life in the age of the Buddha. Apparently their puritan life created a climate in favour of the lay teachings of Buddhism, which helped people consolidate the advances in material life, made during post-Vedic times. But both the brāhmaṇical varṇa ideology and the Buddhist respect for the preservation of cattle hampered production under changed material conditions in subsequent times. Leading Indian economists have drawn attention to the futility of keeping useless, non-productive cattle which are considered to be a drag on economy.

It will therefore appear that in many ways the material and social life of the people in the middle Gangetic plains and its periphery marked a total break with the preceding pattern of life. This conclusion is derived from a combined consideration of Vedic texts, early Pāli texts and archaeological and anthropological material. Even a study of the epics suggests trends of similar development. The epics contain both archaic and developed practices which belong to different social formations and material milieu. Though we do not seem to have much evidence of the existence of the 'band' stage in the *Mahābhārata*, the great epic suggests the passing of a tribal and stateless society into a class-divided and state-based formation with a system of taxation, administrative apparatus, long-term service army, etc. Although tribal elements are not altogether absent in the *Rāmāyaṇa*, its major portion inculcates the norms of a varṇa-divided, state-based social formation in which the vaiśyas appear as principal producers and taxpayers, as they do in the great epic and as do the *gahapatis* in early Pāli texts.

Our limited study shows that the various types of social institutions such as varṇa, *janapada*, etc., could not emerge in a situation in which

people lived on booty capture and cattle rearing. The organizations meant for earning subsistence seem to have been collectivities of a band and more of a tribal type. They operated in various parts of the land of the seven rivers, which did not lack in pasture grounds and water resources for cattle keeping, but the Ṛg Vedic people did not possess any effective technology to be able to exploit its potentialities further. The distribution of booty, especiallly cattle, introduced an element of differentiation, elevating the tribal chiefs and priests above the remaining segments of the tribal communities. But since agriculture was not important enough to lead to a food producing economy, the early Vedic society could not evolve the class and state systems.

The location of nearly 700 PGW sites in the upper Gangetic and Sutlej plains suggests that in the first half of the first millennium B.C. the food producing economy based on the limited use of iron and on the cultivation of untransplanted rainy season rice, supplemented by barley, became a basic feature. Shares from cattle and agricultural yield enabled the big chiefs to perform great sacrifices which validated their authority and demonstrated their growing power and prestige. But even these big chiefs, who ruled over sedentary people, could not develop a professional army, a regular taxation system or a permanent administrative apparatus. On account of more gifts and tributes the rājanyas and various types of priests, especially the brāhmaṇas, came to the forefront. But the clan still formed the 'army' and enjoyed authority over land. Neither chiefs nor priests possessed as much land as would require the services of dependent labour.[4]

The processes of state formation and social stratification gathered momentum and assumed significance in the middle of the first millennium B.C. and later, particularly in eastern UP and Bihar. The two phenomena, which were closely intertwined, appeared because of the capacity of the new agriculture not only to sustain the agriculturists but also many others who were not engaged directly in this vital task of primary production. The food producing economy was immeasurably strengthened by the use of the iron share and other tools, transplantation of paddy, and by religious sanction for the preservation of cattle. All this added to the earning capacity of the peasants, who maintained a large number of kings, soldiers, priests,[5] renouncers, artisans, traders, etc. Primary producers were gradually separated socially and politically from those who collected and consumed taxes, tributes, gifts, etc. This separation, represented as division of labour, found juridical and ideological articulation in the form of the varṇa system, which became the hallmark of state and society in post-Vedic times.

Notes

1 If we get more information about the pre-PGW Grey Ware layers in the Panjab and the neighbouring areas, it may be of some help.

2 Professor B.N.S. Yadava has drawn my attention to the following: .. *indra āsit sīrapatiḥ śatakratuḥ kīnāśā āsan marutaḥ sudānavaḥ.* V, VI.30.1. In the context of barley cultivation on the bank of the Sarasvatī Indra appears as the lord of the plough or the furrow, and his companions, the Maruts, as liberal cultivators. This would suggest that earlier Indra led his followers in fighting and later in cultivating the soil also. Cultivation was therefore a collective endeavour.

3 The exploration of the NBP sites has still to be undertaken in a planned manner; what has been done so far is piecemeal, preliminary and very inadequate.

4 Chiefs and priests possessed more cattle and received various gifts and presents because of their position and functions, but they did not acquire land enough to need dependent labour.

5 If we project the practices prevailing in the dominant clan-based villages (viz., bābhan or brāhmaṇa *barahgāmās* or 12-village units) in north Bihar into ancient times it is likely that members of the senior and leading families of chiefs and priests commanded more influence, which may have contributed to their receipts from the peasantry. But in any case receipts depended on the ability to pay and also to extract payment.

Appendix I

DATING THE VEDIC TEXTS

Vedic scholars reached a workable consensus on the dates of the Vedic texts at a time when the use of archaeology was hardly thought of for the purpose. Digging in Pakistan and northern India during the last thirty years or so has exposed the Gandhar Graves, the Grey Ware and Painted Grey Ware cultures, which in terms of time and place can be linked with the earlier and later Vedic peoples. The Ṛg Vedic people practised burial as well as cremation.[1] A whole hymn is devoted to burial.[2] Even the earliest portion of the *Ṛg Veda* mentions graves.[3] It might suggest the connection of the Ṛg Vedic people with the Gandhar Graves, whose beginnings go anterior to 1000 B.C. Some archaeologists consider contracted burials as one of the characteristics of the Indo-European culture.[4] Cremation was used in Central Europe in the late Bronze Age, i.e., *c.* 1250 B.C.–750 B.C., by some people who are considered Indo-Europeans.[5] It is therefore likely that the practice may have appeared around 1200–1000 B.C. in India, but eventually it replaced burial.

Grey Ware is associated with the Gandhar Graves, and it is believed that the Grey Ware using Indo-Europeans appeared in large numbers in north Iran around 1900 B.C.[6] We also hear of Grey Ware cultures in Greece and Anatolia.[7] Grey Ware comprising bowls and dishes has been found in excavations at Manda in Jammu.[8] In India sherds of this ware go on decreasing as we proceed from north-west to south-east. Thus 109 sites are known in the Panjab, 46 in Haryana, 24 in Uttar Pradesh and 8 in Rajasthan.[9] The time bracket for the Grey Ware Culture is given as *c.* 1700–1000 B.C.[10] This approximates to the bracket suggested for the *Ṛg Veda* on other grounds.

The date of the *Ṛg Veda* was fixed on linguistic and inscriptional considerations, and its strata were identified by means of style and levels of social evolution. The French scholar Louis Renou, a lifelong student of the Vedic texts, accepted the view of Max Müller that the Aryans appeared in India around the fifteenth and sixteenth centuries B.C., and placed the hymns of the *Ṛg Veda* around this date.[11] It is likely that the Aryans infiltrated India a little earlier.[12] We know that Indo-European elements are found among the Hittites

who ruled Anatolia or modern Turkey around 2000 B.C. and that Indo-European terms are found in the language used by the Kassites who invaded Babylonia in the eighteenth century B.C. Furthermore, the urban phase of the Indus civilization came to an end about *c.* 1700 B.C. or even earlier. Although the *Ṛg Veda* in its present form reflects several stages of social and material development extending over more than five centuries, its cattle pastoralism supplemented by farming is a far cry from Harappan urbanism.[13]

Some important inscriptions shed light on the dispersal of the Indo-Europeans. The names of Indra, Mitra, Varuṇa and the Nāsatyas (=Aśvins), mentioned in the *Ṛg Veda*, appear in treaties between the Hittites and Mitannis recorded in the form of inscriptions belonging to *c.* 1350 B.C. in western Asia.[14] A set of short epigraphs written in a Greek dialect and belonging to *c.* 1400–1200 B.C. has been found in Crete and on the mainland of Greece.[15] On this basis it is assumed that the Indo-Europeanization of Greece began in *c.* 1600 B.C.[16] We have already referred to the large scale appearance of the Indo-Europeans in Anatolia and north Iran. In this general context the appearance of the Aryans in India in fair numbers may be attributed to *c.* 1600 B.C. or even a little earlier, and the beginning of the composition of the *Ṛg Veda* to *c.* 1500 B.C.[17]

Although the *Ṛg Veda* is called a *library* rather than a *book*, it is admitted that its earliest portions (presumably the Family Books) precede the post-Ṛg Vedic collections.[18] The *Atharva Veda* was compiled 'perhaps long after the Rigveda', for its linguistic stratum is more recent, and the social and geographical horizons, like its myths and speculations, betray a more advanced state.[19] Despite its primitive ritual, agriculture appears as the principal source of livelihood in this text, which, in view of the numerous Painted Grey Ware settlements,[20] may have become common around *c.* 1000 B.C. A similar date can be suggested for the Yajus texts, in which rituals presuppose farming and consequent availability of cereals for ceremonial use. On the present showing, the use of iron in the Indo-Gangetic divide and the upper Gangetic basin, in which the Yajus texts and the Brāhmaṇas and Upaniṣads were compiled, cannot be taken back earlier than 1000 B.C., for this metal is known to several texts. Renou thinks that the Brāhmaṇas should be placed between the tenth and seventh centuries.B.C.[21] Keith would like to place all the Brāhmaṇas between 800 and 600 B.C.[22] Generally the lower date for the Brāhmaṇas is given as *c.* 600 B.C. to 500 B.C.,[23] and 800 B.C. is considered as a reasonable maximum date for the composition of the earliest Brāhmaṇas,[24] which do not include the *Śatapatha Brāhmaṇa* and the

Aitareya Brāhmaṇa excluding its first five books.[25] The *Śatapatha Brāhmaṇa* is the richest in cultural content, but it almost marks a phase of transition from the Vedic to the post-Vedic culture. The earliest of the important Upaniṣads are placed about 500 B.C. by Macdonell and Keith.[26] Renou regards 500 B.C., the 'often suggested' date for the Upaniṣads, to be reasonable.[27] Thus the Vedic texts, compiled after the *Ṛg Veda*, are generally attributed to *c.* 1000 B.C., and 500 B.C. is considered as marking the end of the compilation of the Vedic literature by Winternitz, but he favours its beginning around *c.* 2000 B.C.[28] However he is not very firm about the upper limit, and thinks that the 'Vedic culture can be traced back *at least* to the second millennium B.C.'[29] The whole range of the Vedic texts including the principal Upaniṣads preceded the Pāli texts, which strongly criticized Vedic views and rituals and were compiled in the fifth century B.C. or even later. Obviously then the Vedic literature has to be accommodated roughly between *c.* 1500 B.C. and 500 B.C. But by and large, the results of the Vedic researches broadly suggest 1500–1000 B.C. as the dates of the *Ṛg Veda*, and linguistic, historical and archaeological investigations locate the later Vedic texts in *c.* 1000–500 B.C. As has been shown earlier, there are sufficient grounds for identifying the later Vedic culture with the Painted Grey Ware culture marked by the use of iron.

Notes

1 *VI*, i, 8-9; ii, 175-76.

2 *RV*, X. 18 quoted in *VI*, i, 8, fn. 7.

3 The term used in *RV*, VII. 89.1 is *bhūmi-gṛha*. Quoted in *VI*, i, 8 with fn. 9.

4 Some archaeologists think that the Kurgan or tumulus grave culture located north of the Black Sea and in south Russia and characterized by battle-axes represents the proto-Indo-European material life and that the authors of this culture raided the ancient Near East around *c.* 2000 B.C., although their infiltration started about a thousand years earlier. Marija Gimbutas, 'Proto-Indo-European Culture: The Kurgan Culture during the Fifth, Fourth, and Third Millennia B.C.', in *Indo-European and Indo-Europeans*, ed., George Cardona, *et al.*, Philadelphia, 1970, pp. 155-97, see also pp. 190-93. However others hold that in addition to the Kurgan culture, contracted burials (often the lying on ochre), pottery with cord-impressed decoration and battle-axes are the hallmarks of the early Indo-European cultures in Europe. Ibid., pp.202-3

5 Marija Gimbutas, *Bronze Age Cultures in Central and Eastern Europe*, The Hague, 1965, p. 31.

6 *Indo-European and Indo-Europeans*, pp. 200-1.

7 Ibid., p. 212. However, the origin and relationships of these cultures have to be determined.

8 Information from Miss Madhubala of the Archaeological Survey of India. Bowls and dishes are typical of the Painted Grey Ware although vases have also been found in good numbers in this pottery.

9 Information from Miss Madhubala of the Archaeological Survey of India.

10 T. N. Khazanchi and K. N. Dikshit, 'The Grey Ware Culture of Northern Pakistan, Jammu and Kashmir, and Punjab', *Purātattva*, no. 9, 1977–78, 47-61. The dating has been suggested on stratigraphical and inferential grounds because of the overlap of the Grey Ware Culture with the late Harappan culture. No radiocarbon dates are available for the Grey Ware horizon as such.

11 Renou, *Vedic India*, p. 10.

12 Ibid.

13 K. C. Chattopadhyaya, an eminent Vedic Scholar, ably refuted the views of those who would like to give an Aryan origin to the Harappa culture. His arguments advanced in 1937 continue to hold ground. See K. C. Chattopadhyaya, *Studies in Vedic and Indo-Iranian Religion and Literature*, Vol. II, ed., V. N. Misra, Varanasi, 1978, pp. 41-50.

14 Ibid., pp. 38-40.

15 These are called Linear B tablets, and they have been deciphered by M. Ventris and J. Chadwick, *Documents in Mycenaean Greek*, Cambridge, 1956. For detailed arguments see William F. Wyatt, Jr. 'The Indo-Europeanization of Greece', *Indo-European and Indo-Europeans*, pp. 89-111.

16 Wyatt, op. cit., pp. 95, 107. Some archaeologists push back the process by about 500 years.

17 1500 B.C. is also mentioned on archaeological grounds in a recent work on Vedic literature, but, in its author's opinion, for the oldest components '13th century B.C. may indeed have much to recommend it'. Jan Gonda, *Vedic Literature (Saṃhitās and Brāhmaṇas)*, forming Vol. I fasc. I of *A History of Indian Literature*, ed., Jan Gonda, Wiesbaden, 1975, pp. 22-3 with fn. 23 on p. 22.

18 Chattopadhyaya, op. cit., pp. 16, 24.

19 Renou, op. cit., p. 23.

20 The present number of sites where Painted Grey Ware sherds have been picked up comes to 719. Information from J. P. Joshi and Miss Madhubala of the Archaeological Survey of India.

21 Op.cit., p. 29. This view is also reiterated by Gonda in *Vedic Literature*, p. 360. The *Kauṣītaki* and *Aitareya Brāhmaṇas* are known to Pāṇini (V. 1.62), and their language is decidedly pre-Pāṇinian (ibid.).

22 *Cambridge History of India*, Vol. I, pp. 131-2.

23 Padma Misra, *Evolution of the Brahman Class*, Varanasi, 1978, p. 43.

24 Ibid., fn. 2.

25 Ibid., p. 42 with fn. 4.

26 Ibid., pp. 43-4 with fn. 1 on p. 44.

27 Renou, op.cit., p. 38.

28 Winternitz, op. cit., i. 288.

29 Ibid., 287-8.

APPENDIX II

NOTES ON MAPS

Map No. 2.

The more or less compact area covered by the Painted Grey Ware is limited to the Indo-Gangetic divide and the upper Gangetic plains. It includes a portion of the Panjab, north-eastern and eastern Haryana, western Uttar Pradesh and the adjacent north-eastern areas of Rajasthan. The largest cluster of the PGW settlements appears in the plains/old beds of the Sarasvatī and on both sides of the Yamunā[1] up to the point where it takes an easterly direction. Found mostly in the ancient lands of the Kuru-Pañcālas, the PGW also appears in the areas of the Madras, the Śūrasenas, and the Matsyas. The map is concerned with the early and particularly with the middle phase of the PGW, for even after *c.* 500 B.C. this distinctive ware continued for a couple of centuries.

So far altogether 719 PGW sites have been listed, and most of them are located in the enclosed area shown in the map. A good portion of the enclosed area including the Panjab, Haryana and the Delhi region is above 250 metres, and even 300 metres and above (please see map no. 1). But this area has not been shaded in order to provide a clearer impression of the site names. Probably the territories with higher altitudes presented lesser problems of clearance at a time when iron was not widely used for this purpose. According to a field study of 43 single or major PGW culture sites,[2] 48.84% of the sites measure below 10,000 sq. m., and had a population below 200 persons;[3] in one case the population numbered around 30.[4] The population of 30.23% of the sites varied between 200–500, of 13.95% of the sites between 500–1000, of 4.65% sites between 1000–1500, and of 2.33% between 1500–2000 persons.[5] The area of the last category ranged between 75,000–1,00,000 sq. m.[6]

The identity of the Grey Ware culture as a precursor of the PGW culture has not been firmly established as yet. But its users seem to have appeared earlier than the PGW people. Bowls and dishes typical of the PGW have been found in Grey Ware at Manda in Jammu. Two layers of Grey Ware complex forming a horizon at Bhagwanpura in Kurukshetra district in Haryana have been exposed. The largest number of explored Grey Ware sites are found

in the Panjab (109), which is followed by Haryana (46): western Uttar Pradesh is a poor third (24). The number of such sites in Rajasthan is only eight. The largest number of the PGW explored and excavated sites (258) appears in Haryana,[7] the second largest in U.P. (218), and the Panjab is a poor third (101). Rajasthan has 81 sites.[8]

Assemblages at most PGW sites include iron objects, meant mainly for war and hunting. Knives, daggers, arrowheads and spearheads are found at Hastinapur. Alamgirpur, Atranjikhera and Kauśāmbī in the levels dated to the seventh century B.C., but their number remains very small.[9] So far iron has not been reported from Bhagwanpura, Nagar, Katpalon and Dadheri, which are credited with the interlocking of the PGW and the Harappan material. But all the same the thick boundary line traced on the map encloses the plains in which PGW settlements appeared in an enormous number for the first time.

Map No. 3

It is intended to give an idea of the various plains formed by the tributaries of the Gaṅgā in eastern UP and Bihar. The rivers may have changed their courses during the last 25 centuries or so. In this respect the Ghaghra and Kosi are considered most notorious and are known for the devastating effects they produce in their flood plains, but broadly the rivers which existed in the age of the Buddha are present.

However the landscape seems to have changed beyond recognition. With the rainfall varying between 40 to 70 inches, we can visualize the existence of thick vegetation in the pre-settlement period. The Pāli texts speak of forests situated even in the vicinity of the towns visited by the Buddha. Of course at present the middle Gangetic basin is almost completely denuded of vegetation except for planned orchards, or tall palm trees which dominate the landscape in the south Bihar plains.

The middle Gangetic plains are one of the most fertile parts of the world, although the soils differ from area to area. The low lying tracts of the lower Gangetic plains of eastern UP are noted for *dhankar* soils, which are stiff with a loam to clay loam texture having a zone of *kankar* formation. Because of *kankar* formation the roots of the trees spread horizontally and hence create problems of clearance for cultivators. Nevertheless the soils are excellent for rice cultivation. In the districts of Arrah, Patna and Gaya, we find *kewal* (also called *karail*) soils, which are typical black heavy clays. They swell considerably in wetting, and on drying they shrink and open into large cracks. These soils are difficult to break. They are highly

fertile, and good not only for paddy cultivation but also for wheat and gram.

Saline and alkaline soils are called *usar* and *reh*, and found particularly in Kanpur and Lucknow. These soils are unsuitable for cultivation. This may be one of the reasons why the early Pāli texts do not seem to mention towns in this area.

Water-logging is a common phenomenon in several parts of the middle Gangetic plains. In north Bihar such areas are called *chaurs*, and some of them look like extensive lakes. These are used for rice cultivation in which paddy is not transplanted. Now most of them have either dried up or been drained.[10]

Map No. 4

The map is intended to show the use of iron objects in the plains of the middle Gaṅgā before or around *c.* 300 B.C. Twenty-eight sites are listed as a result of excavation. In respect of Mahabir Ghat, Begum Haveli (also written as Begum ki Haveli) and Gulzarbagh Government Press playground the iron objects have not been classified place-wise,[11] but L.A. Narain informed me (10 May 1982) that these were found at all the places in the earliest NBP layers.[12] Iron objects also occur in the black-and-red layers in the plains, but several such sites are found in the outlying areas in Madhya Pradesh and west Bengal. Apparently the middle Gangetic plains show a stronger and wider association of iron objects with the NBP deposits. For example, in Rajghat, 4 iron objects have been reported from the pre-NBP phase, but 16 from the early NBP layers characterized as IB. An impressive increase in quantity is also found in the NBP layers of Prahladpur, Chirand and Sonpur.

The largest number of iron objects has been reported from Kauśāmbī and Rajghat, probably because of their nearness to the Vindhyan spurs and their less humid climate. But in these places also most iron goods are in a corroded condition and appear to be 'shapeless and indeterminate bits'. Significantly a good many iron artifacts are meant for production or domestic purposes. They include hoes, and socketed tools comprising axes, adzes, chisels, knives, etc. A ploughshare, found at Kauśāmbī, belongs to the late NBP phase, and the same is true of another, found at Raghuasoi in Vaishali district in course of a trial digging. A cattleshoe from Kauśāmbī belongs to the NBP phase.[13] It is held that between the sixth and the fourth centuries B.C. there was an enormous increase in the production of weapons and that the iron industry was chiefly geared to meet the military requirements of the ambitious, warring *mahājanapadas*.[14] There seems to have been an absolute increase in the number of weapons, but whether they outnumber the tools used for

production and other purposes can be stated only on the basis of counting and comparison. For it is also thought that by the fourth century B.C. excavations show a large number of new weapons and implements including chisels with rectangular and square sections, straight-sided knives, ploughshares, sickles, nails, parallel-sided swords, and even bowls and dishes.[15] Although the quality of Indian iron objects was much appreciated by Heredotus and Alexander,[16] so far there is no technological evidence of making steel in the fifth and fourth centuries B.C. To say that 'By the 4th century B.C. the knowledge of iron technology had diffused all over the country',[17] would be going too far, but there could be little doubt about 'wide distribution and extensive metallurgical activity in the country'.[18] Such activity seems to have been specially facilitated in the middle Gangetic plains by the existence of the country's richest iron mines in the areas of Singhbhum, Mayurbhanj and Keonjhar.

Map No. 5

The early NBP phase roughly indicates the period *c.* 600–300 B.C. but human habitation at many sites located on the map started before *c.* 600 B.C. and continued after *c.* 300 B.C. The view that the NBP appeared in the eighth century B.C.[19] is not supported even by the calibrated value of the radiocarbon dates for the NBP layers in the middle Gangetic plains. Outside the plains much has been made of three radiocarbon dates from Mathura,[20] but the stratigraphical sequence based on the finds in 14 sites in Mathura[21] makes these dates extremely doubtful. Further, the sample carrying 730 B.C. belongs to the mid-level of Period III, i.e., *c.* 200 B.C. to about the end of the first century B.C.[22] The two other samples bearing 660 and 610 B.C. respectively belong to later levels in the same trench as has yielded a younger date, i.e., 300 B.C., for an earlier level.[23] It is significant that most radiocarbon dates for NBP layers at Mathura belong to the stratigraphic Period II, which starts with ring wells,[24] a feature typical of the phase belonging to *c.* 300 B.C. or to a later date.

Since NBP sites have not been explored systematically, so far they number about 585 only.[25] Most of the excavated and explored sites are situated in eastern UP and Bihar, i.e., in the ancient *mahājanapadas* of Vatsa, Kosala, Malla, Kāsi, Vajji, Magadha and Aṅga. Thirty-one excavated sites are shown in the enclosed area of the map. These are not exclusively NBP sites, but at many places NBP deposits are 2-3 metres thick. Pāṭaliputra stands for 3 NBP sites. Thus the total number would be 33. Far more explored sites are known in eastern UP and the adjacent portions of the south-eastern *doab* than in Bihar. In the districts of Darbhanga, Saharsa,

Madhepura and Purnea fewer sites have been reported. These districts cover the Kosi plains or roughly Videha. The main concentration of the NBP seems to be on both sides of the Gaṅgā from Allahabad to Bhagalpur.

The map is not intended to indicate the origin and diffusion of the NBP. The thick boundary line broadly demarcates the area in which settlements appeared on a large scale in the age of the Buddha. Many excavated sites show a thin horizon of black-and-red ware, which suggests the beginning of habitations in the pre-NBP phase. But these sites are generally nearer to the Vindhyas or the Himalayas. In several trenches in Chirand black-and-red ware shows a long life, and NBP appears with burnt bricks and ring wells around 300 B.C. In any case the NBP deposits are substantially thick at most excavated sites, and in spite of lack of systematic efforts the number of explored sites in the alluvial tracts of the middle of Gangetic zone is considerable enough to suggest the first major demographic explosion during the two or three centuries preceding the start of the Maurya age.

Notes

1 Bieham Dutt, 'Settlements of the Painted Grey Ware in Haryana', Ph.D. thesis, Kurukshetra University, Kurukshetra, 1980, p. 35 contains a map of the PGW sites in Haryana on the basis of which we can make such a statement.

2 Ibid., pp. 177-81, and Appendix II.

3 Ibid., p. 177.

4 Ibid., p. 338.

5 Ibid., p. 181.

6 Ibid., p. 177.

7 Ibid., p. 160.

8 Data about the distribution of Grey Ware and PGW sites has been collected by Miss Madhubala, Deputy Superintending Archaeologist, Archaeological Survey of India, New Delhi. The figures cover the period up to 30 April 1982, and have been communicated to me by J. P. Joshi, Director (Exploration), Archaeological Survey of India, through his letter of 19 May 1982. Miss Madhubala also provided me with statewise figures.

9 K. T. M. Hegde, 'Ancient Indian Copper and Iron Metallurgy', *Indian Journal of the History of Science*, XVI, 1981, p. 197.

10 The details in this section are based on S. P. Chaudhuri, *et al.*, *Soils of India*, Indian Council of Agricultural Research, New Delhi, 1963. But I have added something on the basis of my own observation. The map of the plains is based on R. L. Singh, ed., *India: A Regional Geography*, Varanasi, 1971, p. 191, Fig. 5.3.

11 B. P. Sinha and L. A. Narain, *Pāṭaliputra Excavation*, 1955–56, Patna, 1970, p. 56.

12 In 1912–13 D. B. Spooner's excavation at Bulandibagh Patna brought to light a chariot wheel with iron round the hub, 200 uninscribed cast coins, the terracotta head of a smiling infant and also a dancing terracotta girl. Ibid., p. 7. All these could be attributed to *c.* 300 B.C., but the use of iron may have started at the site earlier.

13 I saw this in the Museum of the Department of Ancient History, Culture and Archaeology at the University of Allahabad.

14 K. T. M. Hegde, 'Ancient Indian Copper and Iron Metallurgy', *Indian Journal of the History of Science*, XVI, 1981, 197 together with fn. 23

15 Hegde, op. cit , 197.

16 Ibid.

17 Ibid.

18 Ibid.

19 B. B. Lal, 'Did Painted Grey Ware continue up to the Maurya Times?', *Purātiattva*, No. 9, 1977–78, 68-78.

20 Ibid.

21 M. C. Joshi and A. K. Sinha, 'Chronology of Mathura—An Assessment', *Purātattva*, No. 10, 1978–79, 39.

22 Ibid.

23 Ibid., 42 fn. 1. All these dates are based on the longer radiocarbon half-life value of 5730 ± 40 years.

24 Ibid., 43.

25 The majority of these sites have been counted by Deputy Kohli, who has been working on the NBP problem. I have added more than 100 sites to his list. The present list roughly covers the sites known till the end of March 1981 I am grateful to Dr H. Sarkar of the Archaeological Survey of India for showing me some unpublished material on the subject.

Appendix III

RADIOCARBON DATES FOR THE UPPER GANGETIC PAINTED GREY WARE-IRON SITES

(a) The sites have been arranged alphabetically.
(b) For B.C./A.D. scale, 1950 has been taken as the base year. The abbreviation BP means before present, namely A.D. 1950.
(c) Dates published in *Radiocarbon* are based on 5568 ± 30 years half-life value of radioactive carbon, those in *IAR* are based on 5730 ± 40 years half-life value, and those in *Current Science* on both.

Site	*Sample*	*Period/Levels*	*Comment*	*Date Based on Half-Life Value of Radioactive Carbon = 5568 ± 30 years*	*Date Based on Half-Life Value of Radioactive Carbon = 5730 ± 40 years*	*References*
Ahichchhatra Dist. Bareilly, UP	TF-317 (Charcoal)	Late PGW deposits (?)	The sample belongs to disturbed strata.	2155 ± 100 BP (205 B.C.)	2220 ± 105 BP (270 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 444; *Current Science*, Vol. 35, 1966, p. 277; *IAR*, 1965–66, p. 91.
Alamgirpur Dist. Meerut, UP	TF-51 (Composite of three bones)	PGW deposits (?)	Date obtained is at considerable variance with the archaeological estimate. Because such a large conta-	1060 ± 95 BP (A.D. 890)	1090 ± 100 BP (A.D. 860)	*Radiocarbon*, Vol. 6, 1964, p. 277; *Current Science*, Vol. 33, 1964, p. 41.

			mination is unlikely and because from the sections the samples appear to belong to disturbed strata, the possibility of a wrong identification of the levels cannot be ruled out.			
Allahpur Dist. Meerut, UP	PRL-81 (Charcoal)	PGW levels	Nil	Nil	2335±95 BP (385 B.C.)	*IAR*, 1973–74, p. 65.
	PRL-83 (Wood)	PGW—NBP Ware deposits	Nil	Nil	2225±110 BP (275 B.C.)	*IAR*, 1973–74, p. 54.
Atranjikhera Dist. Etah, UP	TF-191 (Charcoal)	PGW deposits	The sample belongs to the earliest levels of the PGW.	2890±105 BP (940 B.C.)	2975±110 BP (1025 B.C.)	*Radiocarbon*, Vol. 7, 1965, p. 291; *Current Science*, Vol. 33, 1964, p. 267.
	TF-291 (Charcoal)	PGW deposits	The sample belongs to the late levels.	2415±100 BP (465 B.C.)	2485±100 BP (535 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 444; *Current Science*, Vol. 35, 1966, 5; *IAR*, 1965–66, p. 91.
	TF-287 (Charcoal)	PGW deposits (?)	The site is disturbed by later floods; sample seems to be a later intrusion.	1605±95 BP (A.D. 345)	Nil	*Radiocarbon*, Vol. 8, 1966, p. 141.

APPENDIX III

(Contd.)

Site	Sample	Period/Levels	Comment	Date Based on Half-Life Value of Radioactive Carbon 5568±30 years	Date Based on Half-Life Value of Radioactive Carbon 5730±40 years	References
Batesvara Dist. Agra, UP	Not mentioned	Period I (represented by PGW)	Nil	5130±210 BP (3180 B.C.)	5280±210 BP (3330 B.C.)	IAR, 1975–76, p. 43.
Hastinapur Dist. Meerut, UP	TF-91 (Charcoal)	Period II (represented by PGW)	The sample derives from the late level of Period II.	2450±120 BP (500 B.C.)	2520±125 BP (570 B.C.)	*Radiocarbon*, Vol. 6, 1964, p. 228; *Current Science*, Vol. 33, 1964, p. 267.
	TF-85 (Charcoal)	Period II (represented by PGW)	The sample belongs to the late levels of Period II	2385±125 BP (435 B.C.)	2455±130 BP (505 B.C.)	*Radiocarbon*, Vol. 6, 1964, p. 228, *Current Science*, Vol. 33, 1964, p. 11.
	TF-90 (Charcoal)	Period II (represented by PGW)	The sample derives from the uppermost layer of Period II marking the end of PGW.	2270±110 BP (320 B.C.)	2335±110 BP (385 B.C.)	*Radiocarbon*, Vol. 6, 1964, p. 228; *Current Science*, Vol. 33, 1964, p. 11.
	TF-112 (Bone)	Period II (represented by PGW)	The sample derives from the earlier layer of Period II and will date the flooding of the site which led to its desertion by the PGW using people.	2260±95 BP (310 B.C.)	2325±100 BP (375 B.C.)	*Radiocarbon*, Vol. 6, 1964, p. 228, *Current Science*, Vol. 33, 1964, p. 267.

	TF-83 (Charcoal)	Period II (represented by PGW)	The sample derives from the uppermost layer of Period I marking the end of the PGW.	2220 ± 110 BP (270 B.C.)	2285 ± 110 BP (335 B.C.)	*Radiocarbon*, Vol. 6, 1964, p. 228; *Current Science*, Vol. 33, 1964, p. 41.
Mathura Dist. Mathura, UP	PRL-340 (Charcoal)	NBP and PGW overlap	Nil	Nil	2460 ± 150 BP (510 B.C.)	*IAR*, 1976–77, p. 89.
	PRL-342 (Charcoal)	NBP and PGW overlap	Nil	Nil	2250 ± 160 BP (300 B.C.)	*IAR*, 1976–77, p. 89.
Noh Dist. Bharatpur, Rajasthan	UCLA-703B (Charcoal)	PGW levels	Nil	2480 ± 250 BP (530 B.C.)	Nil	*Radiocarbon*, Vol. 7, 1965, p. 355.
	UCLA-703B (Charcoal)	PGW levels	Nil	2690 ± 220 BP (740 B.C.)	Nil	*Radiocarbon*, Vol. 7, 1965, p. 355.
	TF-993 (Charcoal)	PGW culture	Nil	Nil	2675 ± 150 BP (725 B.C.)	*IAR* 1971–72, p. 86.
	TF-1119 (Charcoal)	PGW culture	Nil	Nil	2440 ± 90 BP (490 B.C.)	*IAR*, 1971–72, p. 86.

Appendix IV

RADIOCARBON DATES FOR SITES YIELDING IRON OBJECTS IN THE MIDDLE GANGETIC PLAINS IN *c.* PRE-300 B.C. TIMES

(a) The sites have been arranged alphabetically.

(b) For B.C./A.D. scale, 1950 has been taken as the base year. The abbreviation BP means before present, namely A.D. 1950.

(c) The calibrated value has been given only for dates based on half-life value of radioactive carbon 5568±30 years.

(d) The calibrated value has been worked out according to the formula of R. M. Clark, 'A Calibration Curve for Radiocarbon Dates', *Antiquity*, XLIX, 1975, pp. 251-66.

(e) Dates published in *Radiocarbon* are based on 5568±30 years half-life value of radioactive carbon, those in *IAR* are based on 5730±40 years half-life value, and those in *Current Science* are based on both.

(f) The samples meant for radiocarbon dating do not always belong to the layers in which iron objects have been found.

Site	*Period/Phase/Level*	*Sample*	*Date Based on Half-Life Value of Radioactive Carbon = 5568±30 years*	*Calibrated Value*	*Date Based on Half-Life Value of Radioactive Carbon = 5730±40 years*	*References*
Kankarbagh Dist. Patna, Bihar	Early historic wooden fortification	TF-1115 (Wood)	2480±110 BP (530 B.C.) =	2680 (730 B.C.)	2555±115 BP (605 B.C.)	*Radiocarbon*, Vol. 15, 1973, p.578; *IAR* 1971–72, p. 82.

Kausambi Dist. Allahabad UP	NBP levels	TF-221 (Charcoal)	2385 ± 100 BP (435 B.C.)	=	2428 (478 B.C.)	2450 ± 105 BP (500 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 449; *Current Science*, Vol. 34, 1965, p. 393.
	NBP levels	TF-226 (Charcoal)	2110 ± 95 BP (160 B.C.)	=	2119 (169 B.C.)	2170 ± 100 BP (220 B.C.)	*Radiocarbon* Vol. 8, 1966, p. 449; *Current Science*, Vol. 34, 1965, p. 396.
	NBP early phase	TF-225 (Charcoal)	2285 ± 105 BP (335 B.C.)	=	2367·5 (418 B.C.)	2350 ± 110 BP (400 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 449; *Current Science*, Vol. 34, 1965, p. 397.
	NBP middle levels	TF-219 (Charcoal)	2325 ± 100 BP (375 B.C.)		2387·5 (538 B.C.)	2390 ± 100 BP (440 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 449; *Current Science*, Vol. 34, 1965, p. 397.
	NBP middle phase	TF-105 (Charcoal)	2210 ± 110 BP (260 B.C.)	=	2360 (410 B.C.)	2285 ± 115 BP (335 B.C.)	*Radiocarbon*, Vol. 7, 1965, p. 294; *Current Science*, Vol. 34, 1965, p. 43.
	NBP middle phase	TF-101 (Charcoal)	2150 ± 105 BP (200 B.C.)	=	2155 (205 B.C.)	2220 ± 110 BP (270 B.C.)	*Radiocarbon*, Vol. 7, 1965, p. 293; *Current Science*, Vol. 34, 1965, p. 43.

APPENDIX IV

(Contd.)

Site	*Period/Phase/Level*	*Sample*	*Date Based on Half-Life Value of Radioactive Carbon = 5563 ±30 years*		*Calibrated Value*	*Date Based on Half-Life Value of Radioactive Carbon = 5730 ±40 years*	*References*
Kotia Dist. Allahabad, UP	Megalithic culture	TF-319 (Charcoal)	2135 ±100 BP (185 B.C.)	=	2141·5 (192 B.C.)	..	*Radiocarbon*, Vol. 10, 1968, p. 136.
Kumrahar Dist. Patna, Bihar	Palisades	TF-169 (Wood)	2005 ±95 BP (55 B.C.)		..	2065 ±100 BP (115 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 450; *Current Science*, Vol. 34, 1965, p 397.
Prahladpur Dist. Varanasi, UP	Sub-period IA	TF-186 (Charcoal)	..		..	2715 ±500 BP (765 B.C.)	A. K. Narain and T. N. Roy, *Excavations at Prahladpur*, Varanasi, 1968, p. 64.
Rajghat Dist. Varanasi, UP	NBP levels, early phase, Period IB	TF-293 (Charcoal)	2370 ±105 BP (420 B.C.)	=	2416 (466 B.C.)	2440 ±110 BP (490 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 450; *Current Science*, Vol. 35, 1965, p. 5; *IAR*, 1965–66, p. 92.
	Black-slipped ware deposits, Period IA	TF-292 (Charcoal)	2350 ±95 BP (400 B.C.)	=	2400 (450 B.C.)	2420 ±100 BP (470 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 450; *Current Science*, Vol. 34, 1965, p. 397.

Rajgir Dist. Nalanda, Bihar	Early historical Period I	TF-45 (Charcoal)	2150±100 BP (200 B.C.)	= 2155 (205 B.C.)	..	*Radiocarbon*, Vol. 5, 1963, p. 281.
	Early historical Period I	TF-46 (Charcoal)	2150±100 BP (200 B.C.)	= 2155 (205 B.C.)	..	*Radiocarbon*, Vol. 5, 1963, p. 280.
Sohagaura Dist. Gorakhpur, UP	Period III Early NBP phase	PRL-182 (Charcoal) (Sample No. 6a)	..	..	2190±90 BP (240 B.C.)	*IAR*, 1974–75, p. 77.
		6b		..	2360±150 BP (410 B.C.)	Ibid.
Sonpur Dist. Gaya, Bihar	Period IB Black-and-red ware phase	TF-376 (Charred rice)	2510±105 BP (560 B.C.)	..	2588±105 BP (635 B.C.)	*Radiocarbon*, Vol. 8, 1966, p. 451.
Takiaper Dist. Varanasi, UP	Period I NBP levels	PRL-47 (Wood)	..	..	4730±125 BP (2780 B.C.)	*IAR*, 1973–74, p. 54.
	NBP deposits	PRL-184 (Charcoal)	..	..	2130±110 BP (180 B.C.)	*IAR*, 1974–75, p. 77.

Appendix V

PRE-300 B.C. SITES WITH IRON ARTIFACTS, NBP AND OTHER WARES IN THE MIDDLE GANGETIC PLAINS

(a) The sites have been arranged alphabetically. The list is not exhaustive. It does not specify Mahabir Ghat, Begum ki Haveli and Gulzarbagh Government Press playground, all located in the town of Patna. Hulaskhera and Sringaverpur are not mentioned.

(b) Information about wares, iron artifacts and their periods is based on the published material; in many cases these items are not specified in the reports.

(c) In several cases the chronological bracket based on stratigraphy is too broad, but radiocarbon datings of early NBP sites have been indicated in Appendix IV.

Site	*Period/Phase*	*Pottery*	*Stratigraphical Dating*	*Iron Artifacts*	*References*
Ayodhya Dist. Faizabad, UP	Earliest cultural period	NBP ware, coarse grey, and red wares	Nil	Iron objects	*IAR*, 1969–70, pp. 40-1.
Buxar Dist. Bhojpur, Bihar	Period II	NBP, red, black and grey wares	Nil	Iron implements	*IAR*, 1963-64, p. 8.
	Period I	NBP, black, grey and red wares	Nil	Iron implements	*IAR*, 1965-66, p. 11.
Champa Dist. Bhagalpur, Bihar	Phase IA	NBP, black, black-and-red, plain red and grey wares	Nil	Iron objects	*IAR*, 1971-72, p. 5

	Middle phase of the NBP ware	..	Nil	Dagger	*LAR*, 1974–75, p. 9.
Chechar-Kutubpur Dist. Vaishali, Bihar	Period II	NBP and black-and-red wares	Nil	Iron pieces	*IAR*, 1977–78, p. 18.
Chirand Dist. Saran, Bihar	Period II	NBP, black and red, grey and black wares	c. 600-100 B.C.	Iron objects	*IAR*, 1962–63, p. 6.
	Period IB (pre-NBP)	Black and-red, plain and painted black ware, steel grey and red wares	Nil	Iron objects	*IAR*, 1963–64, p. 8.
	Period IB	Black-and-red, black-slipped and plain red wares	Nil	Iron objects	*LAR*, 1968–69, p. [illegible].
	Period II	NBP and black-and-red wares	Nil	Blades	*LAR*, 1968–69, p. 6.
Ganwaria Dist. Basti, UP	NBP phase		c. sixth cent. B.C. to second cent. B.C.	Iron objects	K. M. Srivastava, *Kapilavastu—A Reply to the Challenge to the Identification of Kapilavastu*, Nagpur, 1978, p. 5.
Jajmau Dist. Kanpur, UP	Period I	NBP ware	Nil	Hooks, rings, nails, arrowheads and spearheads	*LAR*, 1976–77, p. 51.

APPENDIX V

(Contd.)

Site	Period/Phase	Pottery	Stratigraphical Dating	Iron Artifacts	References
Kankarbagh Dist. Patna, Bihar	Defences/ Palisades	NBP ware	Mauryan	Nails	*IAR*, 1970–71, p. 6.
Kausambi	Structural Period 3 to III. 13	Black-and-red ware, PGW ware, black and NBP wares	*c.* 1095 B.C. to *c.* 255 B.C.	Nails, arrowheads and iron fragments	G. R. Sharma, *The Excavations at Kauśāmbi, 1957–59*, Allahabad, 1960, pp. 22, 45-6, 56.
	Period II	NBP ware	500 B.C.	Arrowheads	*IAR*, 1957–58, p. 48.
Koldihwa Dist. Allahabad, UP	Megalithic Phase	..	Nil	Iron pieces	*IAR*, 1971–72, p. 44.
	Iron Age	Red, black-and-red, and black-slipped wares	Post-Chalcolithic	Axe and arrowheads (also slags and crucibles)	*IAR*, 1973–74, p. 27.
	Iron Age	Plain and slipped red, black-slipped and black-and-red wares	Post-Chalcolithic	Not mentioned	*IAR*, 1975–76, p. 45.
Kotia Dist. Allahabad, UP	Megaliths I-V	Black-and-red, red, dull-black and grey wares	Eighth to fourth centuries B.C.	Spearhead, arrowhead, sickles and adze	*IAR*, 1963–64, p. 41.

Kumrahar Dist. Patna, Bihar	Period I	NBP and grey wares	Before *c*. 150 B.C.	Nails and wire	A. S. Altekar and V. K. Mishra, *Report on Kumrahar Excavations, 1951–55*, Patna, 1959, pp. 19, 140 and 141.
Masaon Dist. Ghazipur, UP	Sub-period IA	Black-slipped, fine grey, slipped grey, black-and-red, and plain red wares	Nil	Iron objects	*IAR*, 1965–66, p. 51.
	Sub-period IB	NBP ware	Nil	Arrowhead and spearhead	*IAR*, 1965–66, p. 51.
	Sub-period IB	NBP, grey and red wares	Nil	Iron objects	*IAR*, 1971–72, pp. 38-9.
Oriup Dist. Bhagalpur, Bihar	Period II	NBP, black-slipped grey and red wares	Nil	Spearheads	*IAR*, 1966–67, p. 6.
Pataliputra Dist. Patna, Bihar	Period I	NBP, black-and-red, black, grey and red wares	*c*. 600 B.C. to *c*. 150 B.C.	Iron objects	B. P. Sinha and L. A. Narain, *Pāṭaliputra Excavations 1955–56*, Patna, 1970, pp. 14-20 and 55.
Prahladpur Dist. Varanasi, UP	Sub-period IA	Black-slipped, black-and-red, plain grey, red, and slipped red wares	*c*. 673 B.C. to *c*. 500 B.C.	Arrowhead	A. K. Narain and T. N. Roy, *The Excavations at Prahaladpur: March April, 1963*, Varanasi, 1968, pp. 13, 18 and 63.

APPENDIX V

(Contd.)

Site	*Period/Phase*	*Pottery*	*Stratigraphical Dating*	*Iron Artifacts*	*References*
	Sub-period IB	NBP, black-slipped, black-and-red, grey, coarse red and red-slipped wares	Early NBP phase c. 500 B.C. to c. 163 B.C.	Iron pieces	Ibid., pp. 13, 21-2, 63.
Rajgir Dist. Nalanda, Bihar	Period I	NBP and painted red wares	Before c. sixth-fifth centuries B.C.	Iron objects	*IAR*, 1961-62, pp. 7-8.
	Period I	NBP and red wares	Third-second cent. B.C.	Nails and knife	*IAR*, 1974-75, pp 10–11
Rajghat Dist. Varanasi, UP	Sub-period IA	Black-slipped, plain black-and-red, red-slipped, and coarse gritty red wares	c. 800-600 B.C.	Iron pieces	*IAR*, 1964–65, p 44.
	Sub-period IB	NBP, black-slipped, black-and-red, ochrous red, red, and grey wares	c. 600-400 B.C.	Iron pieces	*IAR*, 1960-61, p 68
	Sub-period IA	Plain and painted black-slipped ware, plain and painted black-and-red ware, slipped and unslipped red ware	c. Eighth to c. sixth-fifth centuries B.C.	Iron implements	A. K. Narain and T. N. Roy, *Excavations at Rajghat (1957–58, 1960-65)*, Part II, Varanasi, 1977, pp 5-6, 9.
	Sub-period IA	..	Nil	Fragmentary and badly rusted iron	H. C. Bhardwaj, *Aspects of Ancient Indian*

				objects	*Technology*, Banaras Hindu Univ., 1979, p. 141.
	Sub-period IB	..	*c.* 600-400 B.C.	Arrowheads, knives, nails, bands, chisels and fragmentary pieces and shapeless bits	Ibid., p. 144.
Sarai-Mohana Dist. Varanasi, UP	Sub-period IB	Plain and painted	Nil	Iron objects	*IAR*, 1967-68, p. 49
Sohagaura Dist. Gorakhpur, UP	Period III	NBP, red, black-and-red, black-slipped and grey wares	Nil	Arrowheads	*IAR*, 1974-75, p. 47
Sonpur Dist. Gaya, Bihar	Period II	NBP, black-and-red, black, and red wares	650 B.C. to 200 B.C.	Chisels, knife blades, blades, arrowheads, spear, medium-sized ring, axe and lances	B. P. Sinha and B. S. Verma, *Sonpur Excavations (1956 and 1959-62)*, Patna, 1977, pp. 8, 13, 128 and 129.
	Period III	NBP, plain and painted red wares, and black-and-red wares	Nil	Nails and blades	*IAR*, 1956-57, p. 19.
	Period II	NBP, black-and-red, and black wares	Nil	Nail and blades	*IAR*, 1959-60, p. 11

APPENDIX V (Contd.)

Site	*Period/Phase*	*Pottery*	*Stratigraphical Dating*	*Iron Artifacts*	*References*
	Period II	NBP, black-and-red, and painted wares	Nil	Lance, spearhead, arrowhead and daggers	*IAR*, 1961–62, pp.4-5.
	Period II	NBP, black-and-red, all-black, red and grey wares	Nil	Iron objects	*IAR*, 1970–71, p. 6.
Sravasti Dist. Bahraich, UP	Period I	PGW, black-and-red, NBP, polished black, and red wares	Middle of the sixth cent. B.C. to 300 B.C.	An elephant goad, nail and arrowhead	K. K. Sinha, *Excavations at Śrāvastī-1959*, Varanasi, 1967, pp. 14, 21, 67 and 68.
Takiaper Dist. Varanasi, UP	Period I	NBP, black-and-red, and black-slipped wares	Nil	Iron objects	*IAR*, 1971–72, p. 49.
Tilaurakot Dist. Taulihawa, Nepal	Phase IA	NBP, black-and-red, and other wares	Third-second cent. B.C.	Nails, chisels, spear-head, link of chain, indeterminate object and fragmentary pieces	Debala Mitra, *Excavations at Tilaurakot and Kodan and Explorations in the Nepalese Tarai*, Department of Archaeology, Nepal, 1972, pp. 16, 18, 147-8.
Vaisali, Dist. Vaishali	Period IA	NBP, and black-and-red wares	*c*. 500-300 B.C.	Tanged knife and lancehead	Krishna Deva and Vijayakanta Mishra,

Bihar					*Vaiśālī Excavations:* 1950–, Vaisali, 1961, pp. 5 and 66.
	Period II	PGW, NBP, black ware, buff ware, grey ware, and red ware	*c.* 600-200 B.C.	Daggers and knife (razor)	B. P. Sinha and Sita Ram Roy, *Vaiśālī Excavations: 1958–62,* Patna, 1969, pp. vii, 7 and 200.

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